

Safety Data Sheet (SDS) Inventory

Product Name	Product Description	Catalog #'s
Absorbent Sheet	Scapa Polymerics L-525, L-525S, and L528 Superabsorbent Laminate	1102-36
Black Top Tube	Greiner Vacuette® Z No Additive	454318
Blood Culture Vial Lytic	BACTEC Lytic/10 Aerobic/F Culture Vials	442021
Blood Culture Vial Standard	BACTEC Standard/10 Aerobic/F Culture Vials	442023
Blue (Light) Top Tube (Protime)	Greiner Vacuette® 9NC Coagulation Tube with Sodium Citrate 3.2%	454323
Culture Swab	Starplex Starswab II Bacteriology Culture Collection and Transport, Product Code SP130X	14211-754
Green Top Tube 3.0mL	BD Vacutainer® Plasma Separator Tube with Lithium Heparin Separator	367960
Green Top Tube 4.5mL	BD Vacutainer® Plasma Separator Tube with Lithium Heparin Separator	367962
Green/Yellow Top	Greiner Vacuette® Plasma Separator Tube with Lithium Heparin	454247P
Ice Pack 12 oz	Koolit Gel Paks, Series 600	89049-358
Ice Pack 3 oz	Polar Pack® Reusable Refrigerant Pack	16000-068
Lavender Top Tube	Greiner Vacuette® K2E K2EDTA Blood Collection Tube	456275
Total Fix™	Medical Chemical Corp. Total Fix™ Stool Collection System Polyvinyl Alcohol Fixative	2807-05
Para-Pak® Stool Bottle 10% Formalin	Meridian Bioscience Para-Pak® 10% Formalin Para-Pak® 10% Formalin ULTRA	900612
Red Top Tube	Greiner Vacuette® Z Serum Separator Clot Activator	454067
Royal Blue Top Tube	BD Vacutainer® Brand Tube with Dipotassium EDTA	368381
Urinalysis Tube	BD Vacutainer® PLUS Conical Tube with Urinalysis Preservative	364992
Urine Culture Tube	Greiner Vacuette® Urine Culture	454486

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

PRODUCT NAME	AQUAKEEP SA
NAME OF SUPPLIER	SUMITOMO SEIKA CHEMICALS CO., LTD. Super Absorbent Polymers Division
ADDRESS OF SUPPLIER	The Sumitomo Building 4-5-33 Kitahama, Chuo-ku, Osaka, 541-0041, Japan
TELEPHONE NUMBER	+81-6-6220-8532
TELEFAX NUMBER	+81-6-6220-8578
EMERGENCY TELEPHONE	
Asia Pacific except China	+65-3158-1074 (CARECHEM24, Singapore)
China	+86-10-5100-3039 (CARECHEM24, Beijing, China)
Europe, Israel & Americas except USA	+44-1235-239-670 (CARECHEM24, UK)
Middle East & Africa	+44-1235-239-671 (CARECHEM24, UK)
USA	800-424-9300 (CHEMTREC, USA)

2. HAZARDS IDENTIFICATION

THE MOST IMPORTANT HAZARD AND EFFECTS PHYSICAL AND CHEMICAL HAZARDS	At high temperature: Thermal decomposition can give toxic products. (CO, CO ₂) In the presence of an ignition source: Dusts can explosive mixture with air.
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GHS Classification

<u>HAZARD CLASS</u>	<u>CATEGORY</u>
FLAMMABLE SOLIDS	Not classified
SELF-REACTIVE SUBSTANCES AND MIXTURES	Not classified
PYROPHORIC SOLIDS	Not classified
SELF-HEATING SUBSTANCES AND MIXTURES	Not classified
SUBSTANCES AND MIXTURES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES	Not classified
OXIDIZING SOLIDS	Not classified
ORGANIC PEROXIDES	Not classified
ACUTE TOXICITY – ORAL	Category 5
ACUTE TOXICITY – SKIN	Not classified
SKIN CORROSION/IRRITATION	Not classified
EYE DAMAGE/IRRITATION	Not classified
SENSITIZATION – RESPIRATORY AND SKIN	Not classified
GERM CELL MUTAGENICITY	Not classified
OTHER CLASSES	"Not applicable" or "Of no classification"

SYMBOL

PICTOGRAM	None
SIGNAL WORD	Warning
HAZARD STATEMENT	May be harmful if swallowed.
RESPONSE	Call a doctor if you feel unwell. Products become slippery when it absorb the water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL/MIXTURE
CHEMICAL NAME
CHEMICAL FORMULA

MIXTURE
 Acrylic Acid Polymer Sodium Salt
 $(\text{CH}_2-\text{CH})_m-(\text{CH}_2-\text{CH})_n$
 $\begin{array}{cc} | & | \\ \text{COOH} & \text{COONa} \end{array}$

CHEMICAL NATURE	FORMULA	CAS No.	CONCENTRATION
Acrylic Acid Polymer Sodium Salt	—	9003-04-7	Not less than 85%
Silicon dioxide	SiO ₂	7631-86-9	Not more than 0.5%
Water	H ₂ O	—	Not more than 10%

4. FIRST-AID MEASURES**INHALATION**

: Remove to fresh air. Rinse out with gargles and seek medical attention.

SKIN CONTACT

: Immediately flush skin with copious amount of water.

EYE CONTACT

: Immediately flush eyes with copious amount of water and seek medical attention

: Remove contact lenses, if present and easy to do.

INGESTION

: Remove AQUAKEEP as much as possible that can be taken out from the mouth. Seek doctor immediately.

If the victim is conscious, induce vomiting and rinse his mouth thoroughly with plenty of water.

INDICATION

: Choking, nausea, and stomachache.

ADVICE FOR FIRST-AID PERSON

: Wear effective dust mask.

: Remove AQUAKEEP as much as possible, because it is hard to treat when AQUAKEEP absorbs the water.

ADVICE FOR DOCTOR

: Let the victim take an enough rest ,

5. FIRE-FIGHTING MEASURES**EXTINGUISHING MEDIA**: Water, Dry Powder, Carbon dioxide(CO₂), Foam.**PROHIBITED MEDIA**

: None

SPECIFIC HAZARD**FOR FIRE-FIGHTING**

: In the presence of an ignition source: Dust can form explosive mixture with air . (in an enclosed space)

: Temperature above 200°C: Thermal decomposition can give toxic products, Organic derivatives, Carbon monoxides.

: Fight a fire from windward if possible.

: Move the container to the safety area if possible.

: Sprinkle the container and its surroundings with water if not possible to move.

SPECIFIC EQUIPMENT FOR THE FIREFIGHTERS

: Wear protective clothing, safety goggles and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS**

: Avoid contact with skin and eyes.

: Prohibit inhalation of dust.

ENVIRONMENTAL**PRECAUTIONS**

: Products become slippery when it absorb the water.

: Do not release into environment.

: Do not let the product enter into drains.

METHODS FOR CLEANING RECOVERY

: Collect product by mechanical means.

: Do not rinse with water that makes the ground slippery.

: Moist product : Absorb the remainder with an inert absorbent material.

: Wear protective clothing, safety goggles and effective mask to prevent the dust from contacting eye and skin.

DISPOSAL

: Destroy the product by incineration.

ADVICE TO PREVENT**SECONDARY DISASTER**

: Products become slippery when it absorb the water.

7. HANDLING AND STORAGE**HANDLING****TECHNICAL****MEASURES**

- : Avoid dust forming.
- : Storage and handling precautions applicable to products :
Dust forming, forming explosive mixtures with air (In the presence of an ignition source:)
Ensure appropriate exhaust and ventilation at machinery and at places where dust can be generated.(Do not permanently recycle dust-laden air)

**PREVENTION OF
EXPLOSURE**

- : Wear suitable chemical resistant gloves, safety goggles, dust mask and other clothing.
- : Use only in the well ventilated area.

**PREVENTION OF FIRE
AND EXPLOSION**

- : Keep away from heat, sparks, flame and all other ignition sources.

**VENTILATION
NOTICE**

- : Local and general ventilation and cleaning after Dust forming.
- : Do not handle roughly, such as dropping, shocking, and dragging etc.
- : Products become slippery when it absorb the water.

STORAGE**TECHNICAL ADVICE****STORAGE CONDITION**

- : Avoid the humidity ,especially the contact the water directly.
- : Keep container tightly closed.
- : Keep container in cool.
- : Protect from direct sunlight.
- : Store protected from moisture.
- : Keep away from heat and sources of ignition.
- : Provide electrical earthing of equipment and electrical equipment usable in explosive atmosphere.
- : The material must be watertight

**RECOMMENDED
PACKAGING****8. EXPOSURE CONTROL / PERSONAL PROTECTION****PROTECTIVE PROVISIONS**

- : Ensure sufficient air exchange and / or exhaust in work areas.
(Do not permanently recycle dust-laden air)

**CONTROL PARAMETERS
EXPOSURE LIMIT**

- : 0.05mg/m³(MAK,2005) (respirable dust : particle size <10 μ m)
- : Not listed (OSHA,2004)
- : Not listed (ACGIH,2005)

TECHNICAL ADVICE

- : Dust collector should be installed to improve the working environment.

**PERSONAL PROTECTIVE
EQUIPEMENT****RESPIRATORY**

- : Effective dust mask

HAND

- : Gloves

EYE

- : Safety glasses / goggles

SKIN AND BODY

- : Non-skid boots

SPECIFIC HYGIENE

- : Avoid contact with skin and eyes.

MEASURES

- Prohibit inhalation of dust

9. PHYSICAL AND CHEMICAL PROPERTIES**PHYSICAL STATE**

- : Solid

FORM

- : Granular powder

COLOUR

- : White

ODOR

- : Odorless

BULK DENSITY

- : 0.60 to 0.90 g/ml

pH

- : 6 to 8

AUTO IGNITION

- : Above 400°C

TEMPERATURE**SOLUBILITY IN WATER**

- : Swells in water

DUST LOWER

- : 600g/m³

EXPLOSION LIMIT**ELECTRICAL RESISTIVITY**

- : $1.6 \times 10^{11} \Omega m$

DUST MINIMUM

- : 1000mJ (at 800 to 2000g/m³)

IGNITION ENERGY

1 0. PHYSICAL HAZARD (STABILITY AND REACTIVITY)

STABILITY	: Stable in room temperature.
	: Thermal decomposition will start above about 200°C.
HAZARD IN SPECIAL CONDITION	: Products become slippery when it absorb the water.
CONDITIONS TO AVOID	: Keep away from heat and sources of ignition.
	: Store protected from moisture
MATERIAL TO AVOID	: None.
HAZARDOUS DECOMPOSITION PRODUCTS	: Thermal decomposition gives toxic products ; organic vapors, carbon monoxide

1 1 .TOXICOLOGICAL INFORMATION ¹⁾

ACUTE TOXICITY	: Oral rat LD50 >2,000m g /kg
IRRITATION / CORROSIVENESS	
SKIN IRRITATION	: Not irritant (Human, Rabbit)
SKIN CORROSIVENESS	: None(Rabbit)
EYE IRRITATION	: None(Rabbit)
VAGINAL MUCOSA IRRITATION	: None(Guinea Pig)
SKIN CONTACT SENSITISATION	: Not sensitizing(Guinea Pig)
MUTAGENICITY	: AMES test is negative, using Salmonella typhimurium (TA 98, TA100, TA1535 and TA1537) and Escherichia coli (WP2uvrA)
CARCINOGENICITY	: No data
TOXIC TO REPRODUCTION	: No data
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)	: No data
ASPIRATION TOXICITY	: No data
SYMPTOMS OF EXPLOSURE	: Dust may cause eye, nasal, or bronchial irritation.

1 2 .ECOLOGICAL INFORMATION

PERSISTENCE / DEGRADABILITY	: Not biodegradable
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1 3 .DISPOSAL CONSIDERATIONS

DISPOSAL OF PRODUCT	: Disposal should be done in accordance with local, state or national legislations.
DISPOSAL OF PACKAGE	: Disposal should be done after package is empty.

1 4 .TRANSPORT INFORMATION

ADR / RID	: Not regulated
IMDG	: Not regulated
IATA	: Not regulated
SPECIFIC MEASURE	: Be careful for falling or damage in loading.
	: Avoid to contact with water.
	: Avoid to shipment with the strong odoriferous things.

1 5 .REGULATORY INFORMATION

SAFETY DATA SHEETS	: D.91/155/EEC amended by D.93/112/EEC (Dangerous substance and preparations)
DANGEROUS PREPARATIONS	: D.88/379/EEC amended by D.93/18/EEC (3 rd ATP) Not classified as dangerous.
INVENTORIES	: TSCA(USA) : Conforms
	: EINECS(EU): Conforms
	: ENCS(JPN) : Conforms

1 6. OTHER INFORMATION

RECOMMENDED USE

: Super absorbent polymers

: Aqueous fluid absorbent

REFERENCE 1)

: Data of contracted laboratory

With regard to Regulatory, it is user's responsibility to investigate if the product complies with their country or region's laws or regulations.

The information relates to this specific product. It will not be valid if the product is used with any other products or in any process.

It is user's responsibility to determine the suitability and completeness of this information for user's particular purpose such as user's commodity and/or usage shown below:

- 1) Where AQUAKEEP SA contacts with food directly.
- 2) Where AQUAKEEP SA contacts with food via the water absorbed in AQUAKEEP SA.
- 3) Where AQUAKEEP SA causes ingestion and contacts with eye directly.
- 4) Where AQUAKEEP SA causes accidental ingestion.

 Page 1 / 4	SAFETY DATA SHEET acc. to ISO 11014, 29 CFR 1910.1200	 greiner bio-one A AN SOP 04.03.02-090 Rev.01 Valid from: Sept 12, 2016
	VACUETTE® Z No Additive Blood Collection Tube	

STATEMENT

According to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard or the European Directives 91/155/EEC, 88/379/EEC and 67/548/EEC, this product is considered an "article" and does not require a Material Safety Data Sheet. According to the mentioned agencies, an article is an item which is formed into a specific shape or design during manufacture and which does not release or otherwise result in exposure to a hazardous chemical under normal use.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** VACUETTE® Z No Additive Blood Collection Tube
- **Manufacturer/Supplier:**

AUSTRIA

Greiner Bio-One GmbH
Bad Haller Strasse 32
4550 Kremsmünster
Austria
Tel: (+43) 7583 6791-0
Fax: (+43) 7583 6791-1114
Email: office@at.gbo.com
Emergency phone number: (+43) 7583 6791-0

USA

Greiner Bio-One North America Inc.
4238 Capital Drive
Monroe, NC 28110
USA
Tel: (+1) 888-286-3883
FAX: (+1) 800-726-0052
Email: info@us.gbo.com
Emergency phone number: (+1) 888-286-3883

BRASIL

Greiner Bio-One Brasil
Produtos Médicos Hospitalares Ltda.
Av. Affonso Pansan no. 1.967
13473-620 Vila Bertini
Americana, São Paulo - Brasil
Tel: (+55) 19 3468-9600
Fax: (+55) 19 3468-9601
Email: info@br.gbo.com
Emergency phone number: (+55) 19 3468-9600

THAILAND

Greiner Bio-One (Thailand) Ltd.
700/172 Moo. 1 Amata Nakorn Industrial Estate
Tambon Bankao, Amphur Phanthong
Chonburi 20160
Tel: (+66) 38-465633
Fax: (+66) 38-465635
Email: office@th.gbo.com
Emergency phone number: (+66) 38-465633

- **Recommended use / restrictions of use :**
To collect, transport and process blood for testing serum, plasma or whole blood in the clinical laboratory. To be used only by trained healthcare professionals according to instructions of use.

SECTION 2: HAZARDS IDENTIFICATION

- **Classification according to NFPA 704:** N/A
- **Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]:** N/A
- **Classification according to EU Directives 67/548/EEC or 1999/45/EC:** N/A
- **Signal Word:** N/A
- **Hazard Statements:** N/A
- **Precautionary Statements:** N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Description:** VACUETTE PET Tube (Polyethyleneterephthalate)
- **Chemical name:** N/A
- **CAS No.** N/A
- **Quantity of substances:** N/A

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SECTION 4: FIRST AID MEASURES

- **Hazard description:** N/A
- **Acute exposure effect:** N/A
- **Skin:** N/A
- **Eyes:** N/A
- **Inhalation:** N/A
- **Ingestion:** N/A

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable extinguishing media:** Use extinguishing media appropriate for surrounding fire.
- **Protective equipment:** Firefighters should wear proper protective equipment.
- **Special hazards arising from the substance or mixture:** N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** N/A
- **Methods for cleaning up:** N/A
- **Methods of containment:** N/A
- **Emergency procedures:** N/A

SECTION 7: HANDLING AND STORAGE

- **Handling:**
Advice for safe handling: N/A
Information about protection against explosions and fires: N/A
- **Storage:**
Requirements to be met by storerooms and receptacles: N/A
Information about storage in one common storage facility: N/A

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Exposure limits:**
OSHA PEL: N/A
ACGIH TLV : N/A
Other recommended limits : N/A
- **Control parameters:** N/A
- **Personal protective equipment:** N/A
General protective and hygienic measures: N/A
Breathing equipment: N/A
Hand protection: N/A
Eye protection: N/A
Body protection: N/A
- **Special requirements for PPE:** N/A
- **Hygiene measures:** N/A
- **Appropriate engineering controls:** N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** N/A
Form: N/A
Color: N/A
- **Odor:** N/A
- **Odor Threshold:** N/A
- **PH-value:** N/A
- **Melting point / Melting range:** N/A

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- **Initial boiling point / boiling range:** N/A
- **Flash point:** N/A
- **Flammability (solid, gaseous):** N/A
- **Danger of explosion:** N/A
- **Vapor pressure:** N/A
- **Density:** N/A
- **Solubility in/Miscibility w/H₂O:** N/A
- **Organic solvents:** N/A
- **Solids content:** N/A
- **Partition coefficient: n-octanol/water:** N/A
- **Auto-ignition temperature:** N/A
- **Decomposition temperature:** N/A
- **Viscosity:** N/A
- **Oxidizing properties:** N/A

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
- **Chemical Stability:** No data available
- **Possibility of hazardous reactions:** No data available
- **Conditions to avoid:** No data available
- **Incompatible materials:** No data available
- **Hazardous decomposition products:** No data available

SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity:** N/A
- **Eye:** N/A
- **Skin:** N/A
- **Inhalation:** N/A
- **Ingestion:** N/A
- **Primary irritant effect:**
 - **On the skin:** Not established
 - **On the eye:** Not established
- **Sensitization:** Not established
- **Additional toxicological information:** None identified

SECTION 12: ECOLOGICAL INFORMATION


- **Ecotoxicological effects:** No data is available on the adverse effects of this material on the environment.
- **Other information:** N/A
- **General notes:** N/A

SECTION 13: DISPOSAL CONSIDERATION

- **Product: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations.
This product is not a hazardous waste according to local regulations.
- **Packaging: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations.
This product is not a hazardous waste according to local regulations.

SECTION 14: TRANSPORT INFORMATION

- **DOT regulations:** Not regulated
- **Land transport ADR/RID:** Not regulated

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- **Maritime transport IMDG:** Not regulated
- **Air transport ICAO-TI and IATA-DGR:** Not regulated

SECTION 15: REGULATORY INFORMATION

- **OSHA, 29 CFR 1910.1200(g) and Appendix D. United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009**
- **EC directives: 91/155/EEC, 93/112/EC, 88/379/EEC**
- **Water hazard class:** N/A
- **Note:** Please note that there may be additional legal provisions to be observed. We recommend that you keep yourself informed about all applicable international, national and local regulations.

SECTION 16: OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Greiner Bio-One nor any of its subcontractors or suppliers assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

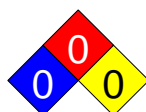
1 Identification

- **Product Identifier:**
- **Product Name:** BD BACTEC Lytic/10 Anaerobic/F
- **Catalog Number:** 442021
- **Application of the substance / the mixture** Laboratory Chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 – 8663
Email Address: Technical_Services@bd.com
- **Information Department:** Technical Service
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident, contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

- **HMIS ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

US

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Lytic/10 Anaerobic/F

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization:** *Mixture*
- **Description:** *Mixture consisting of the following components.*
- **Dangerous Components:** *Void*
- **Additional information** *Risk phrases refer to section 15.*

4 First-aid measures

- **Description of first aid measures**
- **General information** *No special measures required.*
- **After inhalation** *Seek medical treatment in case of complaints.*
- **After skin contact** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** *If symptoms persist consult doctor.*
- **Information for doctor** *Show this product label or this SDS.*
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO2, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** *No special measures required.*

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** *Not required.*
- **Environmental precautions:** *Wipe up with damp sponge or mop.*
- **Methods and material for containment and cleaning up:** *No special measures required.*

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

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Reviewed On: 05/03/2016

Product Name: BD BACTEC Lytic/10 Anaerobic/F

(Contd. of page 2)

Reference to other sections No dangerous substances are released.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:**
No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

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(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

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Product Name: BD BACTEC Lytic/10 Anaerobic/F

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9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Light yellow
Odor:	Sulphurous

- **Change in condition**

- Melting point/Melting range:** Not determined

- Boiling point/Boiling range:** Not determined

- **Flash point:** Not applicable

- **Danger of explosion:** Product does not present an explosion hazard.

- **Density:** Not determined

- **Solubility in / Miscibility with**

- Water:** Soluble

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability**

- **Thermal decomposition / conditions to be avoided:**

- No decomposition if used according to specifications.

- **Possibility of hazardous reactions** No dangerous reactions known

- **Conditions to avoid** No further relevant information available.

- **Incompatible materials:** No further relevant information available.

- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- on the skin:** No irritating effect.

- on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

- The product shows the following dangers according to internally approved calculation methods for preparations:

(Contd. on page 5)

US

Safety Data Sheet acc. to OSHA HCS

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Product Name: BD BACTEC Lytic/10 Anaerobic/F

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The product is not subject to OSHA classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

This product or product container contains dry natural rubber latex.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Other information:**

The ecological effects have not been thoroughly investigated, but currently none have been identified.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Smaller quantities can be disposed of with solid waste.

Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.

This product is not considered a RCRA hazardous waste.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to state and federal regulations.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Lytic/10 Anaerobic/F

(Contd. of page 5)

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number	
· DOT, ADN, IMDG, IATA	Void
· UN proper shipping name	
· DOT, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· DOT, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· DOT, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	If "void" appears in the Hazard Class section for the type of transportation, this indicates the product is not regulated for transportation.
· UN "Model Regulation":	Void

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Lytic/10 Anaerobic/F

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· **California Proposition 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **GHS label elements** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we can not guarantee that these are the only hazards that exist.

· **Department issuing SDS:**

Environmental, Health & Safety

Created by Michael J. Spinazzola

· **Contact:** Technical Service Representative

· **Date of preparation / last revision** 05/10/2016 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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Safety Data Sheet
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Reviewed On: 05/03/2016

Product Name: BD BACTEC Lytic/10 Anaerobic/F

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OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

LC50: Lethal concentration, 50 percent

BEI: Biological Exposure Limit

· *** Data compared to the previous version altered.**

US

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

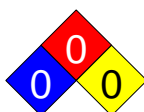
1 Identification

- **Product Identifier:**
- **Product Name:** BD BACTEC Plus Aerobic/F
- **Catalog Number:** 442023
- **Application of the substance / the mixture** Laboratory Chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 – 8663
Email Address: Technical_Services@bd.com
- **Information Department:** Technical Service
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident, contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

- **HMIS ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

US

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Plus Aerobic/F

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization:** Mixture
- **Description:** Mixture consisting of the following components.
- **Dangerous Components:** Void
- **Additional information** Risk phrases refer to section 15.

4 First-aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** If symptoms persist consult doctor.
- **Information for doctor** Show this product label or this SDS.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO2, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** No special measures required.

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Plus Aerobic/F

(Contd. of page 2)

· **Reference to other sections** No dangerous substances are released.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:**
No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

US

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: **BD BACTEC Plus Aerobic/F**

(Contd. of page 3)

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Liquid

- **Color:** Gold

- Amber

- **Odor:** Sulphurous

- **pH-value:** 7.3 +/- 0.2

- **Change in condition**

- **Melting point/Melting range:** Not determined

- **Boiling point/Boiling range:** Not determined

- **Flash point:** Not applicable

- **Danger of explosion:** Product does not present an explosion hazard.

- **Density:** Not determined

- **Solubility in / Miscibility with**

- **Water:** Soluble

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability**

- **Thermal decomposition / conditions to be avoided:**

- No decomposition if used according to specifications.

- **Possibility of hazardous reactions** No dangerous reactions known

- **Conditions to avoid** No further relevant information available.

- **Incompatible materials:** No further relevant information available.

- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritating effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

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US

Safety Data Sheet acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Plus Aerobic/F

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· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

The product is not subject to OSHA classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

This product or product container contains dry natural rubber latex.

· Carcinogenic categories**· IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Ecotoxicological effects:

· Other information:

The ecological effects have not been thoroughly investigated, but currently none have been identified.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods**· Recommendation**

Smaller quantities can be disposed of with solid waste.

Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.

This product is not considered a RCRA hazardous waste.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Plus Aerobic/F

(Contd. of page 5)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|-----------------|
| · UN-Number | |
| · DOT, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | |
| · DOT, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | |
| | Not applicable. |
| · Transport/Additional information: | |
| If "void" appears in the Hazard Class section for the type of transportation, this indicates the product is not regulated for transportation. | |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA Section 355 (extremely hazardous substances)**
| None of the ingredients is listed. | |
- **SARA Section 313 (specific toxic chemical listings)**
| None of the ingredients is listed. | |

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Safety Data Sheet

acc. to OSHA HCS

Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Plus Aerobic/F

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· **TSCA (Toxic Substances Control Act)**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **GHS label elements** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we can not guarantee that these are the only hazards that exist.

· **Department issuing SDS:**

Environmental, Health & Safety

Created by Michael J. Spinazzola

· **Contact:** Technical Service Representative

· **Date of preparation / last revision** 05/10/2016 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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Date Prepared: 05/10/2016

Reviewed On: 05/03/2016

Product Name: BD BACTEC Plus Aerobic/F

(Contd. of page 7)

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit


REL: Recommended Exposure Limit

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

LC50: Lethal concentration, 50 percent

BEI: Biological Exposure Limit

US

 greiner bio-one Page 1 / 4	SAFETY DATA SHEET acc. to ISO 11014, 29 CFR 1910.1200 VACUETTE® 9NC Coagulation Sodium Citrate 3,2% Blood Collection Tube	 greiner bio-one A AN SOP 04.03.02-042 Rev.01 Valid from: Sept 12, 2016
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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** VACUETTE® 9NC Coagulation Sodium Citrate 3,2% Blood Collection Tube
- **Manufacturer/Supplier:**

AUSTRIA

Greiner Bio-One GmbH
Bad Haller Strasse 32
4550 Kremsmünster
Austria
Tel: (+43) 7583 6791-0
Fax: (+43) 7583 6791-1114
Email: office@at.gbo.com
Emergency phone number: (+43) 7583 6791-0

USA

Greiner Bio-One North America Inc.
4238 Capital Drive
Monroe, NC 28110
USA
Tel: (+1) 888-286-3883
Fax: (+1) 800-726-0052
Email: info@us.gbo.com
Emergency phone number: (+1) 888-286-3883

BRASIL

Greiner Bio-One Brasil
Produtos Médicos Hospitalares Ltda.
Av. Affonso Pansan no. 1.967
13473-620 Vila Bertini
Americana, São Paulo - Brasil
Tel: (+55) 19 3468-9600
Fax: (+55) 19 3468-9601
Email: info@br.gbo.com
Emergency phone number: (+55) 19 3468-9600

THAILAND

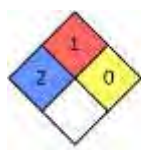
Greiner Bio-One (Thailand) Ltd.
700/172 Moo. 1 Amata Nakorn Industrial Estate
Tambon Bankao, Amphur Phanthong
Chonburi 20160
Tel: (+66) 38-465633
Fax: (+66) 38-465635
Email: office@th.gbo.com
Emergency phone number: (+66) 38-465633

- **Recommended use / restrictions of use :**
To collect, transport and process blood for testing serum, plasma or whole blood in the clinical laboratory. To be used only by trained healthcare professionals according to instructions of use.

SECTION 2: HAZARDS IDENTIFICATION

- **Classification according to NFPA 704 (Possible Rating 0-4):**

Citric Acid Monohydrate:
Health Rating: 2
Flammability Rating: 1
Reactivity Rating: 0





- **Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]:**
Citric Acid Monohydrate:
Eye irritation: Category 2

- **Classification according to EU Directives 67/548/EEC or 1999/45/EC:**
Citric Acid Monohydrate:
Irritating to eyes, respiratory system and skin

- **Signal Word:**
Citric Acid Monohydrate: Warning



- **Hazard Statements:**
Citric Acid Monohydrate:
H319: Causes serious eye irritation

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- **Precautionary Statements:**
Citric Acid Monohydrate:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical name:** Citric Acid Monohydrate
Citric Acid Trisodium Dihydrate
- **CAS No.** Citric Acid Monohydrate 5949-29-1
Citric Acid Trisodium Dihydrate 6132-04-03
- **Quantity of substances:** Citric Acid Monohydrate < 0,5 %
Citric Acid Trisodium Dihydrate < 3 % } Preparation < 20 % (mass %)
Because of trade secrets, not all components and their percentages are listed

SECTION 4: FIRST AID MEASURES

- **Acute exposure effect:**
May cause eye irritation. May cause mucosal irritation.
- **Skin:** Wash with soap and copious amounts of water.
- **Eyes:** Flush eyes with copious amounts of water for at least 5 minutes.
- **Inhalation:** N/A
- **Ingestion:** Dilute with large amounts of water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES



- **Suitable extinguishing media:** Water spray; dry chemical; carbon dioxide.
- **Unusual fire and explosion hazards:** N/A
- **Protective equipment:** Firefighters should wear proper protective equipment and self-contained breathing apparatus with full-face piece operated in positive pressure mode.
- **Special hazards arising from the substance or mixture:** Oxides of nitrogen, carbon monoxide, carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Avoid overexposure. Wear suitable protective clothing.
- **Methods for cleaning up:** Flush area with water.
- **Methods of containment:** Dispose as of hazardous waste. Keep in suitable, closed containers for disposal
- **Emergency procedures:** Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

SECTION 7: HANDLING AND STORAGE

- **Handling:**
Advice for safe handling: Suitable for any general chemical storage area.
Information about protection against explosions and fires: N/A
- **Storage:**
Suitable for any general chemical storage area.

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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION



- **Control parameters:** N/A
Exposure limits:
 OSHA PEL: N/A
 ACGIH TLV : N/A
 Other recommended limits: N/A
- **Personal protective equipment:**
General protective and hygienic measures: Avoid contact with eyes, skin and clothing.
Breathing equipment: N/A
Hand protection: Wear proper gloves.
Eye protection: Use safety goggles.
Body protection: Wear appropriate protective clothing to prevent skin exposure.
- **Hygiene measures:** Wash hands thoroughly after handling.
- **Appropriate engineering controls:** Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **General information**
Form: Liquid (20°C)
Color: Colorless
Odor: Odorless
- **Odor Threshold:** N/A
- **PH-value:** 5 – 6 (20°C)
- **Change in condition**
 Melting point/Melting range: Not determined
 Boiling point/Boiling range: approx. 100°C
- **Flash point:** N/A
- **Flammability (solid, gaseous):** N/A
- **Danger of explosion:** Product does not present an explosion hazard
- **Vapor pressure:** Not determined
- **Density:** 1,01 g/cm³
- **Solubility in/Miscibility w/H₂O:** Miscible
- **Organic solvents:** N/A
- **Solids content:** N/A
- **Partition coefficient: n-octanol/water:** N/A
- **Auto-ignition temperature:** N/A
- **Decomposition temperature:** N/A
- **Viscosity:** N/A
- **Oxidizing properties:** N/A

SECTION 10: STABILITY AND REACTIVITY

- **Thermal decomposition / conditions to avoid:** No decomposition if used according to specifications
- **Materials to avoid:** None identified
- **Dangerous reactions:** None identified
- **Hazardous decomposition products:** Oxides of nitrogen, carbon monoxide, carbon dioxide.

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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity:** Not established
- **Eye:** May cause irritation
- **Skin:** May cause irritation
- **Inhalation:** Not determined
- **Ingestion:** None identified
- **Primary irritant effect:**
 - **On the skin:** May cause irritation
 - **On the eye:** May cause irritation
- **Sensitization:** Not established
- **Additional toxicological information:** None identified

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxicological effects:** No data is available on the adverse effects of this material on the environment.
- **Other information:** N/A
- **General notes:** N/A

SECTION 13: DISPOSAL CONSIDERATION

- **Product: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations. Disposal must be made according to the regulations found in 40 CFR 261. This product is not a hazardous waste according to local regulations.
- **Packaging: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations. This product is not a hazardous waste according to local regulations.
Recommended cleansing agent: Water if necessary with cleansing agents

SECTION 14: TRANSPORT INFORMATION

- **DOT regulations:** Not regulated
- **Land transport ADR/RID:** Not regulated
- **Maritime transport IMDG:** Not regulated
- **Air transport ICAO-TI and IATA-DGR:** Not regulated

SECTION 15: REGULATORY INFORMATION

- **OSHA, 29 CFR 1910.1200(g) and Appendix D. United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009**
- **EC directives: 91/155/EEC, 93/112/EC, 88/379/EEC**
- **Water hazard class:** N/A
- **Note:** Please note that there may be additional legal provisions to be observed. We recommend that you keep yourself informed about all applicable international, national and local regulations.

SECTION 16: OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Greiner Bio-One nor any of its subcontractors or suppliers assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SAFETY DATA SHEET

SDS

Page | 1 (4)

1. Identification

Product Name: Starswab II Bacteriology Culture Collection and Transport System with Amies Clear Gel Medium w/o Charcoal Date Issued : **April 20, 2015**

Product Numbers: SP130X, SP130D, SP130B, SP130-FW, SP130-W

Intended Use: For the collection and transportation of biological specimens from the patient to laboratory.

Supplier: STARPLEX SCIENTIFIC INC.
50A STEINWAY BLVD,
ETOBICOKE ,ONTARIO,
M9W 6Y3
PHONE NUMBER: 1-800-665-0954
FAX NUMBER: (416) 674-6067

Information Department: QA Technical Services

Emergency Information: In case of chemical emergency, spill, fire, exposure or accident, contact Starplex Scientific Inc. (416) 674-7474 or 1-800-665-0954.

2. Hazard(s) Identification

Information pertaining to particular dangers for man and the environment

Classification of the mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EEC

This product contains no hazardous constituents, or the concentration of all chemical constituents is below the regulatory threshold limits described in the Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200, Canada's Workplace Hazardous Materials Information System (WHMIS) and the European Directive 67/548/EEC and 1999/45/EC.

3. Composition/Information on Ingredients

This product is a mixture of the substances listed below with the addition of non-hazardous materials.

<u>Ingredients</u>	<u>CAS No.</u>	<u>% of Medium (per litre)</u>	<u>Classification</u>
Sodium Thioglycollate	367-51-1	0.067 %	R21/22

4. First Aid Measures

General Information: No special measures required.

Ingestion: If swallowed seek medical attention if symptoms occur.

Inhalation: If inhaled seek medical attention if symptoms occur.

Eye Contact: Rinse opened eye for at least 15 minutes under running water, lifting lower and upper eyelids occasionally. Seek medical attention.

Skin Contact: Remove contaminated clothing. Immediately wash with plenty of soap and water for at least 15 minutes. Wash clothing before re-use. Seek medical attention if irritation develops.



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5. Firefighting Measures

Extinguishing Media: Use CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
Protective Equipment: No special measures.

6. Accidental Release Measures

Personal Precautions: Personal protective equipment not required.
Environmental Precautions: Wipe up with damp sponge or mop.
Methods and Material for Containment and Clean-up: No special measures required.

7. Handling and Storage

Handling: No special measures required.
Storage: Units should be stored at 4° - 25°C (40° -77°F) for optimal shelf life. Do Not Freeze. Check expiration date.
Information about storage in one common storage facility: Store away from acidic and oxidizing agents.
Other Precautions: No special measures required.

8. Exposure Controls/Personal Protection

Components with limit values that require monitoring the workplace.

The Amies Clear Gel w/o Charcoal Transport System product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional Information: The Personal Protective Equipment listed below supports general requirements for laboratory personnel. Follow the usual precautionary measures for handling microbiological products. Avoid contact with eyes, skin and clothing. Keep away from food and beverages. Wash hands before and after performing any work in the laboratory.

Personal Protective Equipment: **Breathing Equipment:** Not Required
Hand Protection: Use chemically resistant gloves or equivalent as required for aseptic technique
Eye Protection: May wear safety glasses or goggles
Body Protection: Wear lab coat

9. Physical and Chemical Properties

Appearance and Odour: Clear semi-solid gel contained in a sterile plastic capped vial. Characteristic odour.
Boiling Point: Not determined Density: Not determined Flashpoint: Not applicable
Melting Point: Not determined Flammability: Not flammable Solubility in Water: Soluble
Danger of Explosion: Does not present an explosion hazard
pH: 7.25 +/- 0.25@ 25°C Solvent Content: Organic solvents 0.0% Solids Content: 0.0%

10. Stability and Reactivity



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Thermal decomposition/ Conditions to be Avoided: No decomposition if used according to specifications.
Hazardous decomposition or by products: No dangerous decomposition products known.

11. Toxicological Information

Irritant: No irritating effect on eyes, skin and mucous membranes Sensitization: No sensitizing effects known
Additional toxicological information: This product is not subject to OSHA classification according to internally approved calculation methods for preparations. When used and handled according to specifications, the product does not have any harmful effects according to historical information and experience.

12. Ecological Information

Aquatic Toxicity: No further relevant information available. Generally not hazardous for water.
Ecotoxicological Effects: The ecological effects have not been thoroughly investigated, but currently none have been identified.

13. Disposal Considerations

Waste Disposal Method: Disposal of inoculated tubes should comply with provincial, state and local laws.
Autoclave at 121°C or immerse in a bacteriocidal solution and dispose in a biohazard bag.

14. Transport Information

DOT Regulations: Not regulated TDG (Transport dangerous goods): Not regulated
Maritime Transport IMDG: Not regulated Marine Pollutant : No
Air Transport ICAO-TI/ IATA-DGR: Not regulated

15. Regulatory Information

SARA Section 355 (extremely hazardous substances): None of the ingredients are listed
SARA Section 313 (specific toxic chemical listings): None of the ingredients are listed
TSCA (Toxic Substance Control Act): All ingredients are listed
Carcinogenic Categories: NTP (National Toxicology Program): None of the ingredients is listed
TLV (Threshold Limit Value established by ACGIH): None of the ingredients are listed
Canadian Substance Listings
Canadian Domestic Substance List (DSL): 9002-18-0 Agar
7647-14-5 Sodium Chloride
7558-79-4 Disodium Phosphate
367-51-1 Sodium Thioglycollate
7447-40-7 Potassium Chloride
7778-77-0 Monopotassium Phosphate
10043-52-4 Calcium Chloride
Canadian Ingredient Disclosure List (Limit 0.1%): None of the ingredients are listed
Canadian Ingredient Disclosure List (Limit 1.0%): None of the ingredients are listed



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16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither Starplex Scientific Inc. nor any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information. Final determination of suitability of any material is the sole responsibility of the user.

All materials may present unknown hazards and should be used with caution.

Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Department issuing MSDS: Quality Assurance

Contact: QA Technical Specialist

The information in this safety data sheet has been obtained from current and reliable sources. However, the data is provided without warranty, express or implied, regarding its correctness or accuracy. It is the users' responsibility to determine safe conditions for use of this product and to assume liability for loss, injury, damage, or expense resulting from improper use of this product.



SAFETY DATA SHEET

1. Identification

Product identifier	BD Vacutainer® & Microtainer® Plasma Separation Blood Collection Tubes (PST*™*)
Other means of identification	
Product code	365986, 365987, 365988, 365903, 368035, 368036, 368056, 368824, 367961, 367962, 367963, 367964, 365985, 367960, 368824
Recommended use	For blood collection and analysis.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company name	BD Diagnostics, PreAnalytical Systems
Address	1 Becton Drive Franklin Lakes, NJ 07417-1885
Telephone	800-631-0174
Contact person	Technical Services
Emergency telephone	Chemtrec US 1-800-424-9300 EU 703-527-3887
E-mail	pas_tech_services@bd.com

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	This material is not considered hazardous by the OSHA Hazard Communication Standard, OSHA 29 CFR 1910.1200.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Hydrophobic amorphous fumed silica	68611-44-9	1-5

Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits.
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4. First-aid measures

Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact	Flush eyes with water as a precaution. If irritation occurs, get medical assistance.
Ingestion	Rinse mouth. Get medical attention if any discomfort occurs.
Most important symptoms/effects, acute and delayed	This product is not expected to produce adverse effects under normal conditions of use and appropriate personal hygiene.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Material may burn when exposed to sufficient heat.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with eyes and prolonged skin contact. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Wipe up spilled material and place in a suitable container for disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes and prolonged skin contact. Observe good laboratory hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry, well-ventilated place. Keep container closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrophobic amorphous fumed silica (CAS 68611-44-9)	TWA	6 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines No exposure limits noted for ingredient(s).

Appropriate engineering controls General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection Risk of contact: Wear approved safety goggles.

Skin protection

Hand protection For prolonged or repeated skin contact use suitable protective gloves. Nitrile gloves are recommended. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Respiratory protection Under normal conditions, respirator is not normally required.

Thermal hazards None.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Gel..

Form Tubes.

Color Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not applicable.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) No data available.

Auto-ignition temperature Not applicable.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

10. Stability and reactivity

Reactivity The product is stable and non reactive under normal conditions of use, storage and transport.

Chemical stability Stable at normal conditions.

Possibility of hazardous reactions Will not occur.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products None expected under normal conditions of use.

11. Toxicological information**Information on likely routes of exposure**

Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin contact Under normal conditions of intended use, this material does not pose a risk to health.

Eye contact Under normal conditions of intended use, this material does not pose a risk to health.

Ingestion Under normal conditions of intended use, this material does not pose a risk to health. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics

This product is not expected to produce adverse effects under normal conditions of use and appropriate personal hygiene.

Information on toxicological effects**Acute toxicity**

Not expected to be acutely toxic.

Components**Species****Test Results**

Hydrophobic amorphous fumed silica (CAS 68611-44-9)

Acute*Inhalation*

LC50

Rat

0.45 mg/l, 4 hours

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitization**Respiratory sensitization**

Due to lack of data the classification is not possible.

Skin sensitization

Due to lack of data the classification is not possible.

Germ cell mutagenicity

Due to lack of data the classification is not possible.

Carcinogenicity**IARC Monographs. Overall Evaluation of Carcinogenicity**

Hydrophobic amorphous fumed silica (CAS 68611-44-9) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity

Due to lack of data the classification is not possible.

Specific target organ toxicity - single exposure

Due to lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure

Due to lack of data the classification is not possible.

Aspiration hazard

Due to the physical form of the product it is not an aspiration hazard.

Chronic effects

None known.

12. Ecological information**Ecotoxicity**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

No data available.

Bioaccumulative potential**Mobility in soil**

No data available.

Mobility in general

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations**Disposal instructions**

Dispose in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.

Hazardous waste code

Not regulated.

Waste from residues / unused products

Dispose of waste and residues in accordance with local authority requirements.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not hazardous according to OSHA 29CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Hydrophobic amorphous fumed silica (CAS 68611-44-9)

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrophobic amorphous fumed silica (CAS 68611-44-9)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 23-May-2016

Revision date 19-July-2016
Version # 02
Further information HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings



List of abbreviations

LC50: Lethal Concentration, 50%.


References

ACGIH: American Conference of Governmental and Industrial Hygienists.
US. IARC Monographs on Occupational Exposures to Chemical Agents
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither BD nor any of its subsidiaries assumes any liability whatsoever for completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

This SDS contains revisions in the following section(s): 1, 16.

 greiner bio-one Page 1 / 4	<div style="text-align: center;"> SAFETY DATA SHEET acc. to ISO 11014, 29 CFR 1910.1200 </div> <div style="text-align: center;"> VACUETTE® LH Lithium Heparin Sep Blood Collection Tube </div>	 greiner bio-one A AN SOP 04.03.02-015 Rev.01 Valid from: Sept 12, 2016
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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** VACUETTE® LH Lithium Heparin Sep Blood Collection Tube
- **Manufacturer/Supplier:**

AUSTRIA

Greiner Bio-One GmbH
Bad Haller Strasse 32
4550 Kremsmünster
Austria
Tel: (+43) 7583 6791-0
Fax: (+43) 7583 6791-1114
Email: office@at.gbo.com
Emergency phone number: (+43) 7583 6791-0

USA

Greiner Bio-One North America Inc.
4238 Capital Drive
Monroe, NC 28110
USA
Tel: (+1) 888-286-3883
FAX: (+1) 800-726-0052
Email: info@us.gbo.com
Emergency phone number: (+1) 888-286-3883

BRASIL

Greiner Bio-One Brasil
Produtos Médicos Hospitalares Ltda.
Av. Affonso Pansan no. 1.967
13473-620 Vila Bertini
Americana, São Paulo - Brasil
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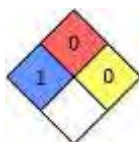
THAILAND

Greiner Bio-One (Thailand) Ltd.
700/172 Moo. 1 Amata Nakorn Industrial Estate
Tambon Bankao, Amphur Phanthong
Chonburi 20160
Tel: (+66) 38-465633
Fax: (+66) 38-465635
Email: office@th.gbo.com
Emergency phone number: (+66) 38-465633

- **Recommended use/restrictions of use :**
To collect, transport and process blood for testing in the clinical laboratory. To be used only by trained healthcare professionals according to instructions of use.

SECTION 2: HAZARDS IDENTIFICATION

- **Classification according to NFPA 704 (Possible Rating 0-4)**
Health Rating: 1 – slight
Flammability Rating: 0 – none
Reactivity Rating: 0 – none



- **Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]:**
Substance is not classified
- **Classification according to EU Directives 67/548/EEC or 1999/45/EC:**
Substance is not classified
- **Pictogram:** N/A
- **Signal Word:** N/A
- **Hazard Statements:** N/A
- **Precautionary Statements:**

P260 Do not breathe dust/fume/gas/mist/vapors/spray
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists, get medical attention.
P264 Wash hands after handling.
P314 Get medical attention if you feel unwell.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical name:** Lithium Heparin
Gel (proprietary)
- **CAS No.** Lithium Heparin 9045-22-1
Gel N/A
- **Quantity of substances:** Lithium Heparin < 1% (mass %)
Gel (proprietary) 10 – 15 % (mass %)
Because of trade secrets, not all components and their percentages are listed.

SECTION 4: FIRST AID MEASURES

- **Health effects:**
Acute exposure effect:
Inhalation: May cause nosebleeds
Repeated Exposure Effects:
Inhalation: May cause nosebleeds
Primary route of entry: Inhalation
Medical conditions which might be aggravated: None identified
- **Skin:** Wash thoroughly with water.
- **Eyes:** Wash thoroughly with water.
- **Inhalation:** Move the exposed person to fresh air. Consult a physician.
- **After swallowing:** Dilute with large amounts of water. Consult a physician.
- **Information for doctor:** Show this label

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable extinguishing media:** Water spray; dry chemical; carbon dioxide
- **Protective equipment:** Wear self-contained breathing apparatus and suitable protective clothing.
- **Special hazards arising from the substance or mixture:** none identified

SECTION 6: ACCIDENTAL RELEASE MEASURES


- **Personal precautions:** Avoid overexposure. Wear suitable protective clothing.
- **Methods for cleaning up:** If amount is small, wash area with water. If amount is large, material should be contained in a clean, dry container and covered. Avoid inhalation during cleanup.
- **Methods of containment:** Keep in suitable, closed containers for disposal.
- **Emergency procedures:** Avoid overexposure. Evacuate personnel to safe areas.

SECTION 7: HANDLING AND STORAGE

- **Handling:**
Advice for safe handling: Avoid inhalation of dusts.
Information about protection against explosions and fires: This material may cause a dust explosion. Avoid dust generation.
- **Storage:**
Requirements to be met by storerooms and receptacles: Product is moisture-sensitive. Store in dark-colored glass or metal containers in a cool, dry place.
Information about storage in one common storage facility: N/A

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

- **OSHA PEL:** N/A
- **AGCIH TLV:** N/A
- **Other recommended limits:** N/A

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- **Appropriate engineering controls:** Use local or general ventilation to keep dust levels as low as possible.
- **Control parameters:** N/A
- **Personal protective equipment:**
General protective and hygienic measures: Wash thoroughly after handling. Remove contaminated and wash before reuse. Avoid contact with eyes, skin and clothing. Avoid ingestion and inhalation. Use with adequate ventilation. Provide eye bath and safety shower.
Breathing equipment: Use an appropriate dust mask
Hand protection: Use proper gloves.
Eye protection: Use safety goggles
Body protection: Wear appropriate protective clothing to prevent skin exposure.
- **Hygiene measures:** N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **General information**
Form: Lithium Heparin: Crystalline powder
Gel: Paste mixture
Color: Lithium Heparin: White
Gel: semitransparent, pale yellow, milky white
Odor: Almost odorless
- **Odor Threshold:** N/A
- **PH-value:** N/A
- **Change in condition**
Melting point/Melting range: N/A
Boiling point/Boiling range: N/A
- **Flash point:** N/A
- **Flammability (solid, gaseous):** N/A
- **Danger of explosion:** Generation and accumulation of dusts may cause an explosion.
- **Vapor pressure:** N/A
- **Density:** Lithium Heparin: N/A
Gel: 1,04 – 1,07 g/cm³
- **Solubility in/Miscibility w/H₂O:** Lithium Heparin: Soluble
Gel: Insoluble
- **Organic solvents:** N/A
- **Specific gravity:** N/A
- **Solids content:** N/A
- **Partition coefficient: n-octanol/water:** N/A
- **Auto-ignition temperature:** N/A
- **Decomposition temperature:** N/A
- **Viscosity:** N/A
- **Oxidizing properties:** N/A

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
- **Chemical Stability:** No data available
- **Possibility of hazardous reactions:** No data available
- **Conditions to avoid:** Avoid generation and accumulation of dusts.
- **Incompatible materials:** No data available
- **Hazardous decomposition products:** Oxides of nitrogen, carbon monoxide, carbon dioxide.

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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity** (LD 50 oral, rat > 200 mg/kg)
Eye: None identified
Skin: None identified
Inhalation: May cause irritation
Ingestion: None identified
- **Primary irritant effect:**
On the skin: Not established
On the eye: Not established
- **Sensitization:** Not established
- **Additional toxicological information:** None identified

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxicological effects:** No data is available on the adverse effects of this material on the environment.
- **Other information:** N/A
- **General notes:** N/A

SECTION 13: DISPOSAL CONSIDERATION

- **Product: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations. Disposal must be made according to the regulations found in 40 CFR 261. This product is not a hazardous waste according to local regulations.
- **Packaging: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations. Disposal must be made according to the regulations found in 40 CFR 261. This product is not a hazardous waste according to local regulations.
Recommend cleansing agent
Water, if necessary with cleansing agents

SECTION 14: TRANSPORT INFORMATION

- **DOT regulations:** Not regulated
- **Land transport ADR/RID:** Not regulated
- **Maritime transport IMDG:** Not regulated
- **Air transport ICAO-TI and IATA-DGR:** Not regulated

SECTION 15: REGULATORY INFORMATION

- **OSHA, 29 CFR 1910.1200(g), and Appendix D. United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009**
- **EC directives: 91/155/EEC, 93/112/EC, 88/379/EEC**
- **Water hazard class:** N/A
- **Note:** Please note that there may be additional legal provisions to be observed. We recommend that you keep yourself informed about all applicable international, national and local regulations.

SECTION 16: OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Greiner Bio-One nor any of its subcontractors or suppliers assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Safety Data Sheet

Section 1 - Product and Company Identification

Product identifier used on the label:	Koolit CMC Gel Packs
Other means of identification, synonyms, etc.:	Cellulose Ether, Cellulose Polymer
Recommended use of the product and restrictions on use:	Thermal Energy Storing Refrigerants

Contact Information:

Cold Chain Technologies, Inc.
29 Everett St.
Holliston, MA 01746
Phone: 508-429-1395
Email: Info@coldchaintech.com

Section 2 - Hazards Identification

EMERGENCY OVERVIEW

Classification of the substance or mixture:

Physical Hazards:	Not classified
Health Hazards:	Not classified
OSHA defined hazards:	Not classified

Label elements:

Hazard Pictograms:	None
Signal Word:	None
Hazard Statements:	None

Precautionary statements:

Prevention:	Observe good industrial hygiene practices.
Response:	Wash hands after handling.
Storage:	Store in cool, dry place.
Disposal:	Dispose of in accordance with Local, State, and Federal Regulations.

Section 3 – Composition/Information on Ingredients

Chemical Characterization:	Cellulose gum and water
Chemical Name and concentration:	N/A
Description:	N/A

Section 4 - First Aid Measures

General information:

Inhalation:	N/A
Skin Contact:	Wash affected area with soap and water. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Eye contact:	Immediately flush eyes with plenty of fresh water for at least 15 minutes. Call a physician. If irritation develops, get medical aid.
Ingestion:	Do not give an emetic unless directed by a physician. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Most important symptoms/effects, acute and delayed:

Indication of immediate medical attention and special treatment needed:	Treat the symptoms and call the emergency number.
--	---

Section 5 - Fire Fighting Measures

Suitable extinguishing media:	Water spray, foam, carbon dioxide or dry chemical.
Unsuitable extinguishing media:	None known.
Special hazards arising from the substance or mixture:	During fire, hazardous gases are not expected to be given off.
Special protective equipment and precautions for firefighters:	Firefighters should wear full protective bunker gear used in fighting fires, including self-contained breathing apparatus.
General information:	Polymer is slippery.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Skin and eye protection
Environmental precautions:	None
Methods and material for containment and cleaning up:	Dispose contaminated material as waste according to Section 13.
Spills/Leaks:	Residuals may be flushed with water into the drain for normal wastewater treatment. This is a non-hazardous waste suitable for disposal in an approved solid waste facility.
General Information:	Material is extremely slippery.

Section 7 - Handling and Storage

Precautions for safe handling:	Avoid gel contact with skin and eyes. Wash hands after contact with gel.
Information about protection against explosions and fires:	

Conditions for safe storage, including any incompatibilities:

Store in a dry, cool place.

Section 8 - Exposure Controls, Personal Protection

Occupational exposure limits:

No information available.

Appropriate engineering controls:

Not applicable.

Individual Protection Measures

Follow general protective and hygienic measures:

Keep away from foodstuffs and beverages.
Wash hands before breaks and at the end of work.

Wash clothes with dust on them.

Keep dust out of eye(s).

Respiratory Protection:

None required.

Skin Protection:

No special protective clothing required.

Eye Protection:

Safety glasses.

Other protective clothing or equipment:

None normally required.

Section 9 - Physical and Chemical Properties

Appearance:

Slightly Cloudy

Physical state:

Gel in a polyethylene or nylon film pouch

Color:

N/A

Odor:

None reported

Odor threshold:

Not applicable

Vapor pressure at 20 °C (68 °F):

Not applicable

Vapor density:

Not available

Relative density:

Not available

pH value:

5-7

Change in condition:

Melting point/Melting range:

0°C

Boiling point/Boiling range:

Flash point:

No Data Available

Flammability (solid, gaseous):

Flammable or explosion limits:

Lower/Upper:

Not Applicable

Ignition temperature:

Auto ignition temperature:

Not Applicable

Decomposition temperature:

>200°C

Danger of explosion:	Not Applicable
Solubility in/miscibility with water:	Soluble in water
Evaporation rate:	
Partition coefficient (n-octanol/water)	
Viscosity	
Dynamic/Kinematic:	
Solvent content	
Organic solvents:	
Water:	
Solid content:	
Other information:	

Section 10 - Stability and Reactivity

Reactivity:	None expected.
Chemical Stability:	Product is stable under normal and anticipated storage and handling conditions.
Possibility of hazardous reactions:	No known dangerous reactions.
Conditions to be avoided:	None identified.
List of incompatible materials:	None identified.
Hazardous decomposition products:	As a gel, none identified.
Hazardous Polymerization:	Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 9004-32-4: FJ5950000
LD50/LC50:
 CAS# 9004-32-4:
 Inhalation, rat: LC50 = >5800 mg/m³/4H;
 Oral, mouse: LD50 = >27 gm/kg;
 Oral, rabbit: LD50 = >27 gm/kg;
 Oral, rat: LD50 = 27000 mg/kg;
 Skin, rabbit: LD50 = >2 gm/kg;

Carcinogenicity:
 CAS# 9004-32-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: Adverse reproductive effects have occurred in experimental

animals.

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available

Section 13 - Disposal Considerations

Disposal instructions: Dispose of in accordance with Local, State and Federal Regulations.

Local disposal regulations: Disposal must be made in accordance with any applicable state or local disposal restrictions.

Component Waste Numbers: No EPA Waste Numbers are applicable for this product's components.

General Product Information: This product is a non-hazardous waste material suitable for approved solid waste landfills.

Section 14 - Transport Information

International Transportation Regulations

This product is not transport regulated.

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 9004-32-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 9004-32-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

Not available.

Risk Phrases:

Safety Phrases:

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 9004-32-4: 1

Canada - DSL/NDSL

CAS# 9004-32-4 is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: August 11, 2011

MSDS Revision Date: June 22, 2015

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Cold Chain Technologies be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Cold Chain Technologies has been advised of the possibility of such damages.

Safety Data Sheet

Section 1: Identification

Product identifier

- Product Name** • **Gel Packs**
- Synonyms** • Flexible PolarPack®
- SDS Number/Grade** • 2015-2

Relevant identified uses of the substance or mixture and uses advised against

- Recommended use** • Keep items cold or frozen
- Restrictions on use** • If ingested: Drink large amounts of water. In case of eye contact: Flush with clean running water. In case of skin contact: Flush with clean water; then wash affected area with soap and water.

Details of the supplier of the safety data sheet

- Manufacturer** • Sonoco Protective Solutions
3930 N Ventura Dr. Suite 450
Arlington Heights, IL 60008
United States
<https://www.thermosafe.com>
james.goeke@sonoco.com

Telephone (General) • 800-323-7442

Emergency telephone number

- Manufacturer** • 800-323-7442

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012** • Not classified

Label elements

- OSHA HCS 2012**
- Hazard statements** • No label element(s) required

Other hazards

- OSHA HCS 2012** • This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Water	CAS:7732-18-5	99%	Ingestion/Oral-Rat LD50 • >90 mL/kg	OSHA HCS 2012: Not Hazardous	NDA
Arctic Gel 1010	NDA	1%	Ingestion/Oral-Rat LD50 • >2000 mg/kg	OSHA HCS 2012: Not Classified	NDA

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Skin

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. In case of skin contact: Flush with clean water; then wash affected area with soap and water.

Eye

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. In case of eye contact: Flush with clean running water.

Ingestion

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If swallowed, rinse mouth with water (only if the person is conscious) If ingested: Drink large amounts of water.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media • No data available

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • No data available

Hazardous Combustion Products • No data available

Advice for firefighters

- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended. Wear appropriate personal protective equipment where contact with eutectic fill is possible.

Emergency Procedures

- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.

Environmental precautions

- No special environmental precautions necessary.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Collect as much leaked material as possible; use of sand or other absorbent materials may be helpful.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Use good safety and industrial hygiene practices. NOTE: Careless handling of Flexible PolarPacks may damage the film pouch material, resulting in leakage of the eutectic fill. Before use, examine the film material for tears, punctures, etc.

Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool, dry, well-ventilated place. Keep from direct sunlight.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines

- No applicable exposure limits available for product or components.

Exposure controls

Engineering

Measures/Controls

- No special controls needed.

Personal Protective Equipment

Respiratory

- No respiratory protection needed.

Eye/Face

- No protective eyewear expected to be needed.

Skin/Body

- Protective gloves are recommended when handling frozen product; otherwise not necessary.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description

Physical Form	Liquid	Appearance/Description	Plastic pack filled with Transparent, colorless, odorless gel.
Color	Transparent, colorless.	Odor	Odorless

Odor Threshold	Not relevant		
General Properties			
Boiling Point	262 °F(127.7778 °C)	Melting Point/Freezing Point	32 °F(0 °C)
Decomposition Temperature	Not relevant	pH	Not relevant
Specific Gravity/Relative Density	= 1.024 @ 68 °F(20 °C) Water=1	Water Solubility	Soluble 100 % Not relevant
Viscosity	Not relevant		
Volatility			
Vapor Pressure	< 0.04 mmHg (torr) @ 77 °F(25 °C)	Vapor Density	1.2 Air=1
Evaporation Rate	0.015 n-Butyl Acetate = 1		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not relevant		
Environmental			
Octanol/Water Partition coefficient	Not relevant		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- No data available

Incompatible materials

- Not applicable.

Hazardous decomposition products

- Not applicable.

Section 11 - Toxicological Information

Information on toxicological effects

Components	
Arctic Gel 1010 (1%)	Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • No data available
Skin corrosion/Irritation	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • No data available
Skin sensitization	OSHA HCS 2012 • No data available
Respiratory sensitization	OSHA HCS 2012 • No data available

Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Toxicity for Reproduction	OSHA HCS 2012 • No data available
STOT-SE	OSHA HCS 2012 • No data available
STOT-RE	OSHA HCS 2012 • No data available

Potential Health Effects

Inhalation

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Skin

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Eye

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Ingestion

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Section 12 - Ecological Information

Toxicity

- Non-mandatory section - information about this substance not compiled for this reason.

Persistence and degradability

- Non-mandatory section - information about this substance not compiled for this reason.

Bioaccumulative potential

- Non-mandatory section - information about this substance not compiled for this reason.

Mobility in Soil

- Non-mandatory section - information about this substance not compiled for this reason.

Other adverse effects

- Non-mandatory section - information about this substance not compiled for this reason.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not applicable. Product not subject to bulk transportation.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

Not Listed

Section 16 - Other Information

Revision Date • 30/March/2016

Preparation Date • 28/March/2016

Disclaimer/Statement of Liability • The information herein is given in good faith but no warranty, expressed or implied, is made.

Key to abbreviations

NDA = No Data Available

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	VACUETTE® K2E K2EDTA Blood Collection Tube	

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** VACUETTE® K2E K2EDTA Blood collection tube
- **Manufacturer/Supplier:**

AUSTRIA

Greiner Bio-One GmbH
Bad Haller Strasse 32
4550 Kremsmünster
Austria
Tel: (+43) 7583 6791-0
Fax: (+43) 7583 6791-1114
Email: office@at.gbo.com
Emergency phone number: (+43) 7583 6791-0

BRASIL

Greiner Bio-One Brasil
Produtos Médicos Hospitalares Ltda.
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13473-620 Vila Bertini
Americana, São Paulo - Brasil
Tel: (+55) 19 3468-9600
Fax: (+55) 19 3468-9601
Email: info@br.gbo.com
Emergency phone number: (+55) 19 3468-9600

USA

Greiner Bio-One North America Inc.
4238 Capital Drive
Monroe, NC 28110
USA
Tel: (+1) 888-286-3883
FAX: (+1) 800-726-0052
Email: info@us.gbo.com
Emergency phone number: (+1) 888-286-3883

THAILAND

Greiner Bio-One (Thailand) Ltd.
700/172 Moo. 1 Amata Nakorn Industrial Estate
Tambon Bankao, Amphur Phanthong
Chonburi 20160
Tel: (+66) 38-465633
Fax: (+66) 38-465635
Email: office@th.gbo.com
Emergency phone number: Tel: (+66) 38-465633

- **Recommended use / restrictions of use :**
To collect, transport and process blood for testing serum, plasma or whole blood in the clinical laboratory. To be used only by trained healthcare professionals according to instructions of use.

SECTION 2: HAZARDS IDENTIFICATION

- **Classification according to NFPA 704 (Possible Rating 0-4):**

Health Rating: 1 – slight
Flammability Rating: 1 – slight
Reactivity Rating: 0 – none



- **Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]:**
Skin irritation: Category 2
Eye irritation: Category 2A
Acute toxicity: Category 4 (Oral)
Specific target organ toxicity: Category 3 (Respiratory tract irritation)
- **Classification according to EU Directives 67/548/EEC or 1999/45/EC:**
Irritating to eyes, respiratory system and skin



- **Signal Word:** Warning
- **Hazard Statements:**
H315 Causes Skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation

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- **Precautionary Statements:**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical name:** Ethylenediaminetetraacetic Acid Dipotassium Dihydrate (EDTA K2)
- **CAS No.** 25102-12-9
- **Quantity of EDTA K2:** < 1% (mass %)
Because of trade secrets, not all components and their percentages are listed

SECTION 4: FIRST AID MEASURES

- **Hazard description:**
May cause eye and skin irritation. Causes respiratory tract irritation and gastrointestinal irritation. Avoid generation and accumulation of dusts.
- **Acute exposure effect:**
May cause skin and eye irritation. Inhalation causes respiratory tract irritation. Ingestion causes gastrointestinal irritation with nausea, vomiting and diarrhea.
- **Skin:** Wash with soap and copious amounts of water.
- **Eyes:** Flush eyes with copious amounts of water for at least 15 minutes.
- **Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen.
- **Ingestion:** Victim should drink copious amounts of water to dilute. Get medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

- **Not considered to be a fire or explosion hazard**
- **Suitable extinguishing media:** Use extinguishing media appropriate for surrounding fire.
- **Protective equipment:** Firefighters should wear proper protective equipment and self-contained breathing apparatus with full-face piece operated in positive pressure mode.
- **Special hazards arising from the substance or mixture:** Carbon oxides, nitrogen oxides (NO_x), Potassium oxides

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Avoid overexposure. Wear suitable protective clothing.
- **Methods for cleaning up:** Carefully sweep up and remove. Flush area with water.
- **Methods of containment:** Dispose as of hazardous waste. Keep in suitable, closed containers for disposal
- **Emergency procedures:** Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

SECTION 7: HANDLING AND STORAGE

- **Handling:**
Advice for safe handling: Keep container tightly closed. Suitable for any general chemical storage area. Avoid inhalation of dusts.
Information about protection against explosions and fires: Avoid contact with incompatible material, minimize dust generation and accumulation.
- **Storage:**
Requirements to be met by storerooms and receptacles: Keep container tightly closed.
Information about storage in one common storage facility: Suitable for any general chemical storage area.

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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Exposure limits:**
OSHA PEL: N/A
ACGIH TLV : N/A
Other recommended limits: N/A
- **Control parameters:** N/A
- **Personal protective equipment:**
General protective and hygienic measures: Wash thoroughly after handling. Remove contaminated and wash before reuse. Avoid contact with eyes, skin and clothing. Avoid ingestion and inhalation. Use with adequate ventilation. Provide eye bath and safety shower.
Breathing equipment: Use an appropriate dust mask
Hand protection: Wear proper gloves.
Eye protection: Use safety goggles.
Body protection: Wear appropriate protective clothing to prevent skin exposure.
- **Special requirements for PPE:** N/A
- **Hygiene measures:** N/A
- **Appropriate engineering controls:** Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:**
Form: Crystalline powder
Color: White
- **Odor:** Odorless
- **Odor Threshold:** N/A
- **PH-value:** 4.0 - 5.0 at 40.4 g/L at 25°C (77°F)
- **Melting point / Melting range:** 255° – 280°C (491° - 536°F) – dec.
- **Initial boiling point / boiling range:** N/A
- **Flash point:** N/A
- **Flammability (solid, gaseous):** N/A
- **Danger of explosion:** Generation and accumulation of dusts may cause an explosion.
- **Vapor pressure:** N/A
- **Density:** N/A
- **Solubility in/Miscibility w/H₂O:** ca. 40.4 g/L at 20°C (68°F)
- **Organic solvents:** N/A
- **Solids content:** N/A
- **Partition coefficient: n-octanol/water:** N/A
- **Auto-ignition temperature:** N/A
- **Decomposition temperature:** N/A
- **Viscosity:** N/A
- **Oxidizing properties:** N/A

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
- **Chemical Stability:** No data available
- **Possibility of hazardous reactions:** No data available
- **Conditions to avoid:** Avoid generation and accumulation of dusts.
- **Incompatible materials:** No data available
- **Hazardous decomposition products:** May form under fire conditions – nitrogen oxides (NO_x), carbon oxides, potassium oxides

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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity** (LD 50 oral, rat > 200 mg/kg)
Eye: May cause irritation
Skin: May cause irritation
Inhalation: Causes respiratory tract irritation
Ingestion: Causes digestive tract irritation
- **Primary irritant effect:**
On the skin: Not established
On the eye: Not established
- **Sensitization:** Not established
- **Additional toxicological information:** None identified

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxilogical effects:** No data is available on the adverse effects of this material on the environment.
- **Other information:** N/A
- **General notes:** N/A

SECTION 13: DISPOSAL CONSIDERATION

- **Product: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations.
This product is not a hazardous waste according to local regulations.
- **Packaging: Recommendation**
Disposal should be done in accordance with all federal, state and local environmental regulations.
This product is not a hazardous waste according to local regulations.

SECTION 14: TRANSPORT INFORMATION

- **DOT regulations:** Not regulated
- **Land transport ADR/RID:** Not regulated
- **Maritime transport IMDG:** Not regulated
- **Air transport ICAO-TI and IATA-DGR:** Not regulated

SECTION 15: REGULATORY INFORMATION

- **OSHA, 29 CFR 1910.1200(g) and Appendix D. United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009**
- **EC directives: 91/155/EEC, 93/112/EC, 88/379/EEC**
- **Water hazard class:** N/A
- **Note:** Please note that there may be additional legal provisions to be observed. We recommend that you keep yourself informed about all applicable international, national and local regulations.

SECTION 16: OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Greiner Bio-One nor any of its subcontractors or suppliers assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Medical Chemical Corp.
19430 Van Ness Ave.
Torrance, CA 90501
Customer Service: Phone (310)787-6800
FAX (310)787-4464

CHEMTREC Emergency Response Telephone Number: (800)424-9300

Note: The CHEMTREC phone number is only for emergencies involving spills, leaks, fire, exposure or accident. Please direct all other inquiries to our customer service phone number.

Section I - Product Identification

A solution of zinc sulfate, acetic acid and alcohols in water.

Section II - Hazards Identification

Overview: Toxic by inhalation absorption or ingestion. Can not be made nontoxic. Methanol is a cumulative poison and death has been reported for ingestion of less than 30 milliliters. Causes CNS depression, headache, intoxication, dilation of the pupils, convulsions nausea, and dizziness. Methanol intoxication may produce visual disturbances and blindness. Zinc sulfate is slightly toxic

Safety Ratings

Health: Hazardous **Flammability:** Highly flammable liquid and vapor **Reactivity:** Slight **Contact:** Slight

Recommended safety equipment: safety goggles, lab coat and proper gloves

Storage: Keep cool, away from sources of ignition in a well ventilated area.

NFPA Ratings

Health = 2 Flammability = 3 Reactivity = 1



Potential Health Effects

The toxicology of this compound have not been completely examined. It is presumed that the toxicity of this item is similar to that of other zinc compounds.

Inhalation: Alcohols are absorbed through the mucous membranes and can produce irritation as well as the same effects as ingestion.

Ingestion: Inhalation can produce CNS disturbance, dizziness, photophobia, etc.

Skin contact: Alcohols are absorbed through the skin. Chronic contact with alcohols causes defatting of the skin with resultant irritation and flaking. Chronic contact with zinc sulfate can cause systemic poisoning.

Eye contact: Irritating and corrosive.

Chronic Exposure: Unknown.

Aggravation of preexisting conditions: Impaired kidney and liver function may be aggravated by exposure to alcohols and/or zinc sulfate. Preexisting eye, skin, and respiratory conditions may also be aggravated. Methanol has shown genetic toxicity in some animals.

Section III - Composition/Information on Hazardous Components

Ingredients	CAS#	OSHA Pel	ACGIH TLV	Other Limits	%
Acetic acid	64-19-7	25 mg/m ³ (TWA)	25 mg/m ³ (TWA)		1% v/v
Ethanol	64-17-5	1000 ppm (TWA)	1000 ppm (TWA)		30% v/v
Isopropanol	67-63-0	400 ppm (TWA)	400 ppm (TWA)		1.7% v/v
Methyl alcohol	67-56-1	200 ppm (TWA)	200 ppm (TWA)		1.7% v/v
Zinc sulfate	7733-02-0	Not applicable	Not applicable		5% w/v

Section XII - Ecological Information

Environmental Fate: Not biodegradable.

Environmental Toxicity: Toxic to aquatic organisms.

Ethanol evaporates quickly and is not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. The half-life for ethanol in the atmosphere is one to ten days. Zinc sulfate will bioaccumulate.

Section XIII - Disposal Considerations

Many localities restrict the amount of zinc compounds that may be flushed down the drain. Insure compliance with all government regulations.

Section XIV - Transportation Information

DOT/IATA Shipping name: Ethanol Solution

Hazard Class: 3

Packaging Group III

Hazard Label: Flammable liquid

UN Identification Number: UN1170

Bottles smaller than 32 Fl. Oz. are eligible to be shipped under ORM-D or limited quantity exemptions [49 CFR section 173.150(b)(2), 173.150(C) and IATA Y341].

Section XV - Regulatory Information

Chemical Inventory Status

<u>Ingredient</u>	<u>TSCA</u>	<u>EC</u>
Acetic Acid	Yes	Yes
Ethanol	Yes	Yes
Isopropanol	Yes	Yes
Methanol	Yes	Yes
Zinc Sulfate	Yes	Yes

Federal, State and International Regulations

<u>Ingredient</u>	<u>SARA 302</u>		<u>SARA 313</u>		<u>RCRA</u>	<u>TSCA</u>	
	<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Category</u>	<u>261.33</u>	<u>8(D)</u>	<u>Ca. Prop. 65</u>
Acetic Acid	No	No	No	No	No	No	No
Ethanol	No	No	No	No	No	No	No
Isopropanol	No	No	Yes	No	No	No	No
Methanol	No	No	Yes	No	U154	No	Yes
Zinc Sulfate	No	No	No	Zinc Cmpd	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes

SARA 311/312: Acute: Yes, Chronic: Yes, Flammable: Yes

Section XVI - Other Information

This information is believed to be correct but is not warranted as such, nor does it purport to be all inclusive.

Revision Date: May 12, 2014.

Section IV - First Aid Measures

Inhalation: Remove from source of exposure and get immediate medical attention. Be prepared to assist breathing.

Ingestion: Do not induce vomiting if patient is unconscious or extremely drowsy. Otherwise, administer 2 glasses of water and induce vomiting. Get immediate medical attention even if symptoms improve.

Skin Contact: In case of skin contact, remove contaminated clothing and flush with water. Wash affected area with soap and water. Get medical advice if irritation persists.

Eye Contact: In case of eye contact, flush with water for at least 15 minutes and get medical attention.

Section V - Fire Fighting Measures

Flash point: 28°C (83°F) TCC

Flammable Limits (for ethanol): LEL 3% UEL 19%

Fire: Water is ineffective against alcohol fires but may be used to cool adjacent containers.

Fire Extinguishing Media: Alcohol foam, carbon dioxide or dry chemical.

Special information: Pyrolysis will release zinc compounds.

Section VI - Accidental Release Measures

Remove all sources of ignition, absorb with a suitable absorbent and store for disposal or recycling.

Section VII - Handling and Storage

Store in a closed container, away from open flames or other sources of ignition.

Section VIII - Exposure Control/Personal Protection

Airborne Exposure Limits: See section III.

Ventilation System: Usually not required. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

Personal Respirator: Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

Skin protection: Protective gloves are required.

Eye Protection: Laboratory safety goggles or similar products are required.

Section IX - Physical and Chemical Properties

Boiling Point: 88°C (190°F)

Density: 0.983 g/ml

Vapor pressure (mm Hg): Unknown

Evaporation Rate (Water = 1): 1

Vapor Density (air = 1): 1.6

Solubility: Infinitely miscible with water

Appearance and Odor: A clear (or slightly hazy), colorless liquid with the characteristic odor of alcohol.

Section X - Stability and Reactivity

Stability: Freezes at low temperature.

Hazardous Decomposition Products: Zinc compounds.

Hazardous polymerization: Will not occur.

Incompatibilities: Oxidizers.

Conditions to avoid: heat, flame and sources of ignition.

Section XI - Toxicological Information

Chronic consumption of ethanol is believed to be linked to liver disease, cancer and birth defects.

Cancer lists

<u>In ingredient</u>	<u>Known Carcinogenicity? NTP?</u>		<u>Anticipated?</u>	<u>IARC Category</u>
Acetic Acid	no	no	no	none
Ethanol	no	no	no	none
Isopropanol	no	no	no	3
Methanol	no	no	no	none
Zinc Sulfate	no	no	no	none

Issuing date 06-Apr-2016

Revision Date 06-Apr-2016

Version 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product code 900412, 980412
Product name Para-Pak® 10% Formalin and Para-Pak® ULTRA 10% Formalin - CS9004
Contains Formaldehyde, Methyl alcohol

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fixative

1.3 Details of the supplier of the safety data sheet

Manufacturer
Meridian Bioscience, Inc.
3471 River Hills Drive
Cincinnati, Ohio 45244
(800) 343-3858

Authorized Representative
Meridian Bioscience Europe
Via del' Industria 7
20020 Villa Cortese Milano, Italy

For further information, please contact:

E-mail Address www.meridianbioscience.com

1.4 Emergency telephone number

Emergency telephone Emergency telephone CHEMTREC (International) 1-703-527-3887 / For US
1-800-424-9300

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****REGULATION (EC) No 1272/2008**

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute inhalation toxicity - gas	Category 3
Acute inhalation toxicity - dust/mist	Category 3
Skin sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B

2.2 Label elements



Signal Word

Danger

Hazard Statements

H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H317 - May cause an allergic skin reaction
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
Contains Formaldehyde, Methyl alcohol

Precautionary Statements - EU (§28, 1272/2008)

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P280 - Wear eye protection/ face protection
P201 - Obtain special instructions before use
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P321 - See SDS Section 4 or Section 11 for additional medical treatment information
P322 - See SDS Section 7 for additional handling and storage measures

2.3 Other information

SECTION 3: Composition/information on ingredients

3.1 Substances

3.2 Mixtures

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Formaldehyde	Present	50-00-0	4	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350)	no data available
Methyl alcohol	Present	67-56-1	1	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) Flam. Liq. 2 (H225)	no data available

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a physician immediately.
Skin contact	Wash off immediately with soap and plenty of water. Get medical attention immediately if symptoms occur.
Ingestion	Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.
Inhalation	Move to fresh air. Get medical attention immediately if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable Extinguishing Media

Dry chemical, CO₂, alcohol-resistant foam or water spray.

Extinguishing media which shall not be used for safety reasons

No information available.

5.2 Special hazards arising from the substance or mixture

None.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

See Section 12 for additional Ecological Information.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Do not breathe vapors or spray mist. Ensure adequate ventilation. Avoid contact with skin and eyes. Wear personal protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end uses

Other Guidelines

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	European Union	The United Kingdom	France	Spain	Germany
Formaldehyde 50-00-0		STEL: 2 ppm STEL: 2.5 mg/m ³ TWA: 2 ppm TWA: 2.5 mg/m ³	TWA: 0.5 ppm STEL: 1 ppm	STEL: 0.3 ppm STEL: 0.37 mg/m ³	TWA: 0.3 ppm TWA: 0.37 mg/m ³ Ceiling / Peak: 0.6 ppm Ceiling / Peak: 0.74 mg/m ³ Skin
Methyl alcohol 67-56-1	TWA: 200 ppm TWA: 260 mg/m ³ Skin	STEL: 250 ppm STEL: 333 mg/m ³ TWA: 200 ppm TWA: 266 mg/m ³ Skin	TWA: 200 ppm TWA: 260 mg/m ³ STEL: 1000 ppm STEL: 1300 mg/m ³	S* TWA: 200 ppm TWA: 266 mg/m ³	TWA: 200 ppm TWA: 270 mg/m ³ Ceiling / Peak: 800 ppm Ceiling / Peak: 1080 mg/m ³ Skin
Component	Italy	Portugal	The Netherlands	Finland	Denmark
Formaldehyde 50-00-0 (4)		Ceiling: 0.3 ppm	STEL: 0.5 mg/m ³ TWA: 0.15 mg/m ³	TWA: 0.3 ppm TWA: 0.37 mg/m ³ STEL: 1 ppm STEL: 1.2 mg/m ³ Ceiling: 1 ppm Ceiling: 1.2 mg/m ³	Ceiling: 0.3 ppm Ceiling: 0.4 mg/m ³
Methyl alcohol 67-56-1 (1)	TWA: 200 ppm TWA: 260 mg/m ³ Skin	STEL: 250 ppm TWA: 200 ppm TWA: 260 mg/m ³	Skin TWA: 133 mg/m ³ TWA: 100 ppm	TWA: 200 ppm TWA: 270 mg/m ³ STEL: 250 ppm STEL: 330 mg/m ³ Skin	TWA: 200 ppm TWA: 260 mg/m ³ Skin
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Formaldehyde 50-00-0	Skin STEL 0.5 ppm STEL 0.6 mg/m ³ TWA: 0.5 ppm TWA: 0.6 mg/m ³ Ceiling 0.5 ppm Ceiling 0.6 mg/m ³	STEL: 0.6 ppm STEL: 0.74 mg/m ³ TWA: 0.3 ppm TWA: 0.37 mg/m ³	STEL: 1 mg/m ³ TWA: 0.5 mg/m ³	TWA: 0.5 ppm TWA: 0.6 mg/m ³ Ceiling: 1 ppm Ceiling: 1.2 mg/m ³ STEL: 0.5 ppm STEL: 0.6 mg/m ³	TWA: 2 ppm TWA: 2.5 mg/m ³ STEL: 2 ppm STEL: 2.5 mg/m ³
Methyl alcohol 67-56-1	Skin STEL 800 ppm STEL 1040 mg/m ³ TWA: 200 ppm	Skin STEL: 800 ppm STEL: 1040 mg/m ³ TWA: 200 ppm	STEL: 300 mg/m ³ TWA: 100 mg/m ³	TWA: 100 ppm TWA: 130 mg/m ³ Skin STEL: 150 ppm	TWA: 200 ppm TWA: 260 mg/m ³ STEL: 600 ppm STEL: 780 mg/m ³

	TWA: 260 mg/m ³	TWA: 260 mg/m ³		STEL: 162.5 mg/m ³	Skin
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Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection	Tightly fitting safety goggles.
Hand Protection	Protective gloves.
Skin and body protection	Wear impervious gloves and/or clothing if needed to prevent contact with the material.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid	Odor	Pungent
Appearance	No information available	Odor Threshold	No information available
Color	colorless		

Property	Values	Remarks • Methods
pH	7.00 (6.80 to 7.20)	No information available
Melting/freezing point		No information available
Boiling point/boiling range	99 °C / 210 °F	No information available
Flash Point	> 105 °C / > 221 °F	No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		No information available
upper flammability limit		
lower flammability limit		
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity		No information available
Water solubility		Soluble in water
Solubility in other solvents VALUE		No information available
Partition coefficient: n-octanol/water		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		No information available
Explosive properties	No information available	
Oxidizing Properties	No information available	

9.2 Other information

Softening point	No information available
Molecular Weight	No information available
VOC Content(%)	No information available
Density VALUE	No information available
Bulk Density VALUE	No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

10.4 Conditions to Avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible Materials

Strong bases. Oxidizing agents.

10.6 Hazardous Decomposition Products

None under normal use conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation There is no data available for this product.

Eye contact There is no data available for this product.

Skin contact There is no data available for this product.

Ingestion There is no data available for this product.

Acute toxicity 95% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document:

Oral	100.00 mg/kg
Dermal	300.00 mg/kg
Inhalation	
Gas	500.05 mg/l
Mist	0.50 mg/l
Vapor	588.45 mg/l

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Formaldehyde	100 mg/kg (Rat)	270 mg/kg (Rabbit)	0.578 mg/L (Rat) 4 h
Methyl alcohol	6200 mg/kg (Rat)	15800 mg/kg (Rabbit)	22500 ppm (Rat) 8 h 64000 ppm (Rat) 4 h

Skin corrosion/irritation No information available.

Eye damage/irritation No information available.

Sensitization No information available.

Germ Cell Mutagenicity No information available.

Carcinogenicity No information available.

Chemical Name	European Union
Formaldehyde	Carc. 1B

Reproductive toxicity No information available.

Specific target organ systemic toxicity (single exposure) No information available.

Specific target organ systemic toxicity (repeated exposure) No information available.

Aspiration hazard No information available.

SECTION 12: Ecological information

12.1 Toxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Formaldehyde		22.6 - 25.7: 96 h Pimephales promelas mg/L LC50 flow-through 1510: 96 h Lepomis macrochirus µg/L LC50 static 41: 96 h Brachydanio rerio mg/L LC50 static 0.032 - 0.226: 96 h Oncorhynchus mykiss mL/L LC50 flow-through 100 - 136: 96 h Oncorhynchus mykiss mg/L LC50 static 23.2 - 29.7: 96 h Pimephales promelas mg/L LC50 static	2: 48 h Daphnia magna mg/L LC50 11.3 - 18: 48 h Daphnia magna mg/L EC50 Static
Methyl alcohol		28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through	

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

Chemical Name	log Pow
Formaldehyde	0.35
Methyl alcohol	-0.77

12.4 Mobility in soil

Mobility

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products Dispose of waste in accordance with all federal, state, and local regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

IATA/DOT Not regulated

14.1.
14.2.
14.3.
14.4.
14.5.
14.6.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Name	French RG number
Formaldehyde	RG 43
Methyl alcohol	RG 84

International Inventories

TSCA	Complies
EINECS/ELINCS	-
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2 Chemical Safety Report

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects if inhaled
H350 - May cause cancer if swallowed
H370 - Causes damage to organs (a,b,c) if inhaled
H225 - Highly flammable liquid and vapor
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H317 - May cause an allergic skin reaction
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer

Issuing date 06-Apr-2016



Revision Date 06-Apr-2016

Revision Note not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Meridian Bioscience, Inc. shall not be held liable for any damages resulting from handling or from contact with the above product.

 greiner bio-one Page 1 / 3	SAFETY DATA SHEET acc. to ISO 11014, 29 CFR 1910.1200	 greiner bio-one A AN SOP 04.03.02-003 Rev.00 Valid from: 09/22/2014
	VACUETTE® Z Serum Sep Clot Activator	

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** VACUETTE® Z Serum Sep Clot Activator
- **Manufacturer/Supplier:**

AUSTRIA

Greiner Bio-One GmbH
 Bad Haller Strasse 32
 4550 Kremsmünster
 Austria
 Tel: (+43) 7583 6791-0
 Fax: (+43) 7583 6791-1114
 Email: office@at.gbo.com

USA

Greiner Bio-One North America Inc.
 4238 Capital Drive
 Monroe, NC 28110
 USA
 Tel: (+1) 888-286-3883
 FAX: (+1) 800-726-0052
 Email: info@us.gbo.com

BRASIL

Greiner Bio-One Brasil
 Produtos Médicos Hospitalares Ltda.
 Av. Affonso Pansan no. 1.967
 13473-620 Vila Bertini
 Americana, São Paulo - Brasil
 Tel: (+55) 19 3468-9600
 Fax: (+55) 19 3468-9601
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THAILAND

Greiner Bio-One (Thailand) Ltd.
 700/172 Moo. 1 Amata Nakorn Industrial Estate
 Tambon Bankao, Amphur Phanthong
 Chonburi 20160
 Tel: (+66) 38-465633
 Fax: (+66) 38-465635
 Email: office@th.gbo.com

SECTION 2: HAZARDS IDENTIFICATION

- **Hazard description:**
 If used as intended and handled in a correct manner in accordance with our instruction for use no particular hazards to human health will occur.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Description:** VACUETTE PET Tube (Polyethyleneterephthalate) with
- **Chemical name:** Blood Coagulant Accelerator
 Gel (proprietary)
- **CAS No.** N/A
- **Quantity of substances:** Blood Coagulant Accelerator < 1% (mass %)
 Gel (proprietary) 10 – 15 % (mass %)
- **Exposure limits:** N/A

SECTION 4: FIRST AID MEASURES



- Not expected to give rise to an acute hazard under normal conditions of use.

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable extinguishing media:** Water spray; dry chemical; carbon dioxide
- **Protective equipment:** Wear self-contained breathing apparatus and suitable protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Avoid overexposure. Wear suitable protective clothing.
- **Environmental precautions:** N/A
- **Methods for cleaning up:** N/A

 greiner bio-one Page 2 / 3	SAFETY DATA SHEET acc. to ISO 11014, 29 CFR 1910.1200	 greiner bio-one A AN SOP 04.03.02-003 Rev.00 Valid from: 09/22/2014
	VACUETTE® Z Serum Sep Clot Activator	

SECTION 7: HANDLING AND STORAGE

- **Handling:**
Advice for safe handling: Suitable for any general chemical storage area.
Information about protection against explosions and fires: N/A
- **Storage:**
Suitable for any general chemical storage area.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION



- **Control parameters:** N/A
- **Personal protective equipment:**
General protective and hygienic measures: N/A
Breathing equipment: N/A
Hand protection: Use proper gloves.
Eye protection: N/A
Body protection: Wear appropriate protective clothing to prevent skin exposure.
- **Hygiene measures:** N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **General information**
Form: Blood Coagulant Accelerator: Water suspension mixture
Gel: paste mixture
Color: Blood Coagulant Accelerator: Milky white
Gel: semitransparent, pale yellow, milky white
Odor: Odorless
- **PH-value:** N/A
- **Change in condition**
Melting point/Melting range: N/A
Boiling point/Boiling range: N/A
- **Flash point:** N/A
- **Flammability (solid, gaseous):** N/A
- **Danger of explosion:** Generation and accumulation of dusts may cause an explosion.
- **Vapor pressure:** N/A
- **Density:** Blood Coagulant Accelerator: N/A
Gel: 1,04 – 1,07 g/cm³
- **Solubility in/Miscibility w/H₂O:** Blood Coagulant Accelerator: Insoluble
Gel: Insoluble
- **Organic solvents:** N/A
- **Specific gravity:** N/A

SECTION 10: STABILITY AND REACTIVITY

- **Thermal decomposition / conditions to avoid:** No decomposition if used according to specifications
- **Materials to avoid:** None identified
- **Dangerous reactions:** None identified
- **Hazardous decomposition products:** Oxides of nitrogen, carbon monoxide, carbon dioxide.

 greiner bio-one Page 3 / 3	SAFETY DATA SHEET acc. to ISO 11014, 29 CFR 1910.1200	 greiner bio-one A AN SOP 04.03.02-003 Rev.00 Valid from: 09/22/2014
	VACUETTE® Z Serum Sep Clot Activator	

SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity** (LD 50 oral, rat > 200 mg/kg)
Eye: None identified
Skin: None identified
Inhalation: None identified
Ingestion: None identified
- **Primary irritant effect:**
On the skin: Not established
On the eye: Not established
- **Sensitization:** Not established
- **Additional toxicological information:** None identified

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxicological effects:** No data is available on the adverse effects of this material on the environment.
- **Other information:** N/A
- **General notes:** N/A

SECTION 13: DISPOSAL CONSIDERATION

- **Product:**
Recommendation
Disposal should be done in accordance with all federal, state and local environmental regulations.
This product is not a hazardous waste according to local regulations.
- **Packaging:**
Recommendation
Disposal should be done in accordance with all federal, state and local environmental regulations.
This product is not a hazardous waste according to local regulations.
Recommended cleansing agent: N/A

SECTION 14: TRANSPORT INFORMATION

- **DOT regulations:** Not regulated
- **Land transport ADR/RID:** Not regulated
- **Maritime transport IMDG:** Not regulated
- **Air transport ICAO-TI and IATA-DGR:** Not regulated

SECTION 15: REGULATORY INFORMATION

- **Hazard Communication Standard (HCS) 29 CFR 1910.1200(g), revised in 2012**
- **EC directives:** 91/155/EEC, 93/112/EC, 88/379/EEC
- **National regulations:** Chemical (Hazard Information and Packaging) Regulations: ChemG (Austria)
- **Water hazard class:** N/A
- **Note:** Please note that there may be additional legal provisions to be observed. We recommend that you keep yourself informed about all applicable international, national and local regulations.

SECTION 16: OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Greiner Bio-One nor any of its subcontractors or suppliers assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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Version: 1.0
Last revised date: 06/17/2016

SAFETY DATA SHEET

1. Identification

Product identifier

Product name: TUBE TRCE PLH 13X100 6.0
UPLBL R/BL EDTA

Product No.: 368381

Other means of identification

SDS number: 088100181062

Recommended use and restriction on use

Recommended use: Scientific and industrial laboratory use. For In Vitro Diagnostic Use.

Restrictions on use: For External Use Only

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: BD Diagnostics, Preanalytical Systems
Address: 1 Becton Drive
07417 Franklin Lakes, NJ
Telephone: 1 800 631 0174
Fax: 1 201 847 4866
Contact Person: Technical Services
E-mail: pas_tech_services@bd.com

Emergency telephone number: ChemTrec 1 800 424 9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Inhalation - dust and mist) Category 4

Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	0 %
Acute toxicity, inhalation, vapor	0 %
Acute toxicity, inhalation, dust or mist	0 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	0 %
Chronic hazards to the aquatic environment	0 %

Label Elements

Hazard Symbol:

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Signal Word: Warning

Hazard Statement: Harmful if inhaled.
Precautionary Statement

Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, potassium salt (1:2)		25102-12-9	60 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: No recommendation given, but first aid may still be required in case of accidental exposure of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

Ingestion: Not likely, due to the form of the product. However: Rinse mouth thoroughly. Never give liquid to an unconscious person. Get medical attention if symptoms occur.

Inhalation: Move into fresh air and keep at rest. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin Contact: Due to the small packaging the risk of skin contact is minimal. However: Wash skin with soap and water.

Eye contact: Due to the small packaging the risk of eye contact is minimal. However: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.



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Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, alcohol-resistant foam, dry powder, carbon dioxide.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: None known.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No unusual fire or explosion hazards noted.

Special protective equipment for fire-fighters: No specific precautions.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No special precautionary health measures should be needed under anticipated conditions of use. Avoid inhalation of vapors and spray mists.

Methods and material for containment and cleaning up: No specific clean-up procedure noted. Sweep or scoop up and remove.

Environmental Precautions: Avoid release to the environment.

7. Handling and storage

Precautions for safe handling: Wear appropriate personal protective equipment. However: Due to the small size of the container, and the intended use by trained medical professionals, risk of exposure is low.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Keep the container in a safe place. Keep in a cool, well-ventilated place.



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8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Observe good industrial hygiene practices. However: Due to the small size of the container, and the intended use by trained medical professionals, risk of exposure is low.

Individual protection measures, such as personal protective equipment

General information: No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Eye/face protection: Avoid contact with eyes and prolonged skin contact. Protective gloves and goggles must be used if there is a risk of direct contact or splash.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: No data available.

Respiratory Protection: Not relevant, due to the form of the product. However: The risk of inhalation of dust must be minimized as much as possible.

Hygiene measures: Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state: solid solid

Form: Powder Crystalline Powder.

Color: White, White

Odor: Odorless, Odorless

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: The physical-chemical properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.

Initial boiling point and boiling range: The physical-chemical properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.

Flash Point: not applicable not applicable

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%): No data available.

Explosive limit - upper (%): No data available.

Explosive limit - lower (%):	No data available.
Vapor pressure:	The physical-chemical properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.
Vapor density:	No data available.
Relative density:	The physical-chemical properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.
Solubility(ies)	
Solubility in water:	The physical-chemical properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.
Solubility (other):	not applicable not applicable
Partition coefficient (n-octanol/water):	The physical-chemical properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	Not determined. Not determined.

10. Stability and reactivity

Reactivity:	Stable under normal temperature conditions and recommended use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	None under normal conditions.
Conditions to avoid:	None under normal conditions.
Incompatible Materials:	Strong oxidizers
Hazardous Decomposition Products:	Material is stable under normal conditions.

11. Toxicological information

General information: Under normal conditions of intended use, this material does not pose a risk to health.

Information on likely routes of exposure

Ingestion: Due to the small packaging the risk of ingestion is minimal.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard. However: Harmful if inhaled.

Skin Contact: Due to the small packaging the risk of skin contact is minimal.



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Eye contact: Due to the small packaging the risk of eye contact is minimal. However: Eye contact is possible and should be avoided.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No specific symptoms noted.

Inhalation: No specific symptoms noted.

Skin Contact: Skin irritation is not anticipated when used normally. However: May cause skin irritation.

Eye contact: No specific symptoms noted. However: May cause minor irritation on eye contact.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: No data available.

Dermal
Product: No data available.

Inhalation
Product: ATEmix: 1.5 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified



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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.



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Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: The physical-chemical properties of this material have not been fully investigated.

Log Kow: The physical-chemical properties of this material have not been fully investigated.

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, potassium salt (1:2)

No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste and residues in accordance with local authority requirements.

Contaminated Packaging: No data available.

14. Transport information

DOT

Special precautions for user: Not regulated.

IMDG

Special precautions for user: Not regulated.

IATA

Special precautions for user: Not regulated.



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15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, potassium salt (1:2)	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.



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US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

16. Other information, including date of preparation or last revision
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Issue Date: 06/17/2016

Version #: 1.0

Revision Information:

Further Information: No data available.

Disclaimer: Disclaimer:
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SAFETY DATA SHEET

1. Identification

Product identifier BD Vacutainer® Plus Tubes with Preservative for Urinalysis

Other means of identification

Product code 364943, 364992, 364946, 365017

Recommended use For urine collection and analysis.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name BD Diagnostics, PreAnalytical Systems

Address 1 Becton Drive
Franklin Lakes, NJ 07417-1885

Telephone 800-631-0174

Contact person Technical Services

Emergency telephone Chemtrec US 1-800-424-9300 EU 703-527-3887

E-mail pas_tech_services@bd.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement This material is not considered hazardous by the OSHA Hazard Communication Standard, OSHA 29 CFR 1910.1200.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash skin with soap and water.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium propionate	137-40-6	90-100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin contact Wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact Flush eyes with water as a precaution. If irritation occurs, get medical assistance.

Ingestion Rinse mouth. Get medical attention if any discomfort occurs.

Most important symptoms/effects, acute and delayed	This product is not expected to produce adverse effects under normal conditions of use and appropriate personal hygiene.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	No specific first aid measures noted.
5. Fire-fighting measures	
Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with eyes and prolonged skin contact. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Collect spillage with shovel, broom or the like and reuse, if possible. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes and prolonged skin contact. Observe good laboratory hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry, well-ventilated place. Keep container closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	No exposure limits noted for ingredient(s).
Appropriate engineering controls	No particular ventilation requirements.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Risk of contact: Wear approved safety goggles.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves. Nitrile gloves are recommended. Suitable gloves can be recommended by the glove supplier.
Skin protection	
Other	No protection is ordinarily required under normal conditions of use.
Respiratory protection	Under normal conditions, respirator is not normally required.
Thermal hazards	None.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	The product is bound on the wall of the device.
Color	Not available.

Odor	Not available.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Not applicable.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other information	
Density	Not applicable.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	None under normal temperatures and pressures.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Under normal conditions of intended use, this material does not pose a risk to health.
Eye contact	Under normal conditions of intended use, this material does not pose a risk to health.
Ingestion	Under normal conditions of intended use, this material does not pose a risk to health. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics	Under normal conditions of intended use, this material does not pose a risk to health.
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Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
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Components	Species	Test Results
Sodium propionate (CAS 137-40-6)		
Acute		
Dermal		
LD50	Rabbit	1640 mg/kg
Skin corrosion/irritation	Due to lack of data the classification is not possible.	
Serious eye damage/eye irritation	Due to lack of data the classification is not possible.	
Respiratory or skin sensitization		
Respiratory sensitization	Due to lack of data the classification is not possible.	
Skin sensitization	Due to lack of data the classification is not possible.	
Germ cell mutagenicity	Due to lack of data the classification is not possible.	
Carcinogenicity	Due to lack of data the classification is not possible.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
NTP Report on Carcinogens		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not regulated.		
Reproductive toxicity	Due to lack of data the classification is not possible.	
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.	
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.	
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.	
Chronic effects	None known.	
Further information	As supplied, the product is expected to pose no immediate health hazard. The substance is bound on the wall of the device and with proper use it is unlikely to escape the tube as a hazardous dust.	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of waste and residues in accordance with local authority requirements.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

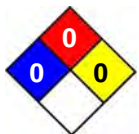
Issue date 23-March-2016

Revision date -

Version #
HMIS® ratings

01
Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings





References

HSDB® - Hazardous Substances Data Bank
ACGIH: American Conference of Governmental and Industrial Hygienists.
US. IARC Monographs on Occupational Exposures to Chemical Agents
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
IARC Monographs. Overall Evaluation of Carcinogenicity

Disclaimer

BD Diagnostics Preanalytical Systems cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

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	VACUETTE® Urine CCM Tubes	

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** VACUETTE® Urine CCM Tubes
- **Manufacturer/Supplier:**

AUSTRIA

Greiner Bio-One GmbH
Bad Haller Strasse 32
4550 Kremsmünster
Austria
Tel: (++43) 7583 6791-0
Fax: (++43) 7583 114
Email: office@at.gbo.com

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

- **Description:** VACUETTE PET Tube (Polyethyleneterephthalate) with
- **Chemical name:** CCM-Additive
- **CAS No.** 1303-96-4, 10043-35-3
- **Quantity of substances:** < 1%
- **Exposure limits:** N/A

SECTION 3: HAZARDS IDENTIFICATION

- **Hazard description:** Chemical content may damage fertility or the unborn child and causes serious eye irritation.
- **Health effects:**
Acute exposure effect:
Skin: Causes severe irritation. May cause burns, especially if skin is wet or moist.
Eyes: Causes severe irritation and may cause burns. May cause eye damage.
Inhalation: May cause severe irritation of the respiratory tract and may cause burns.
Ingestion: Harmful if swallowed and may be fatal.

If exposed or concerned get medical advice/attention



- **Repeated Exposure Effects:**
not known
- **Medical conditions which might be aggravated:**
not known

SECTION 4: FIRST AID MEASURES

- **Skin:** Wash with soap and copious amounts of water. Remove contaminated clothing. Wash clothing and thoroughly clean shoes before reuse. Get medical attention.
- **Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Get medical attention.
- **Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen.
- **Ingestion:** Get medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable extinguishing media:** Use extinguishing media appropriate for surrounding fire.
- **Protective equipment:** Firefighters should wear proper protective equipment and self-contained breathing apparatus with full-face piece operated in positive pressure mode.

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	VACUETTE® Urine CCM Tubes	

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Avoid overexposure. Wear suitable protective clothing.
- **Environmental precautions:** N/A
- **Methods for cleaning up:** Carefully sweep up and remove. Flush area with water.

SECTION 7: HANDLING AND STORAGE



- **Handling:**
Advice for safe handling: Keep container tightly closed.
- **Information about protection against explosions and fires:** Avoid contact with incompatible material, minimize dust generation and accumulation. Material must be handled with adequate ventilation.
- **Storage:**
Requirements to be met by storerooms and receptacles: Keep container closed when not in use. Store in a cool, dry, well-ventilated area.
Information about storage in one common storage facility: Keep container closed when not in use. Store in a cool, dry, well-ventilated area.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Additional information about design of technical systems:** Use general or local exhaust ventilation to reduce exposure.
- **Personal protective equipment:**
General protective and hygienic measures: Wash thoroughly after handling. Remove contaminated and wash before reuse. Avoid contact with eyes, skin and clothing. Avoid ingestion and inhalation. Use with adequate ventilation. Provide eye bath and safety shower.
Breathing equipment: None required, where adequate ventilation conditions exist. For conditions where dust is apparent and engineering controls are not feasible, a NIOSH/MSHA approved respirator is recommended. If concentration exceeds capacity of respirator, a self-contained breathing apparatus is recommended.
Hand protection: Wear appropriate protective gloves to prevent skin exposure.
Eye protection: Use chemical safety goggles
Body protection: Wear appropriate protective clothing to prevent skin exposure.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **General information**
Form: Crystalline powder
Color: White
Odor: Odorless
- **PH-value:** Not determined
- **Change in condition:** Not determined
- **Flash point:** N/A
- **Flammability (solid, gaseous):** N/A
- **Danger of explosion:** Product does not present an explosion hazard
- **Vapor pressure:** Not determined
- **Density:** Not determined
- **Solubility in/Miscibility w/H₂O:** Soluble
- **Organic solvents:** N/A
- **Solids content:** N/A

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SECTION 10: STABILITY AND REACTIVITY

- **Thermal decomposition / conditions to avoid:** No decomposition if used according to specifications.
- **Materials to avoid:** Anhydrid substances, oxidizing agents.
- **Dangerous reactions:** Stable; none known
- **Hazardous decomposition products:** Boric acid, carbon oxide.

SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity** (LD 50 oral rat > 200 mg/kg)
Eye: Severely irritating to the eyes.
Skin: Severely irritating to the skin.
Inhalation: Harmful if inhaled and may be fatal.
Ingestion: Toxic if swallowed.
- **Primary irritant effect:**
On the skin: Severely irritating to the skin.
On the eye: Severely irritating to the eyes.
- **Sensitization:** Not established
- **Additional toxicological information:**
Chronic: not known

SECTION 12: ECOLOGICAL INFORMATION



- **Ecotoxilogical effects:** Unspecified. No data is available on the adverse effects of this material on the environment.
- **Other information:** The ecological effects have not been thoroughly investigated, but currently none have been identified.

SECTION 13: DISPOSAL CONSIDERATION

- **Product:**
Recommendation
Disposal should be done in accordance with all federal, state and local environmental regulations. Disposal must be made according to the regulations found in 40 CFR 261. This product is not a hazardous waste according to local regulations.
- **Packaging:**
Recommendation
Disposal should be done in accordance with all federal, state and local environmental regulations. Disposal must be made according to the regulations found in 40 CFR 261. This product is not a hazardous waste according to local regulations.
Recommended cleansing agent
Water, if necessary with cleansing agents

SECTION 14: TRANSPORT INFORMATION

- **DOT regulations:** Not regulated
- **Land transport ADR/RID:** Not regulated
- **Maritime transport IMDG:** Not regulated
- **Air transport ICAO-TI and IATA-DGR:** Not regulated

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SECTION 15: REGULATORY INFORMATION

- **Hazard Communication Standard (HCS) 29 CFR 1910.1200(g), revised in 2012**
- **EC directives: 1907/2006 EG, 1272/2008 EG**
- **National regulations: Chemical (Hazard Information and Packaging) Regulations: ChemG (Austria)**
- **Water hazard class: N/A**
- **Note:** Please note that there may be additional legal provisions to be observed. We recommend that you keep yourself informed about all applicable international, national and local regulations.

SECTION 16: OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Greiner Bio-One nor any of its subcontractors or suppliers assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.